1. In 1978, WIPO published "Model Provisions on the Protection of Computer Software" (hereinafter referred to as "the Model Provisions") as a result of several years' work carried out by the International Bureau of WIPO with the assistance of experts. That project originated from a request by the United Nations to prepare a study on the appropriate form of legal protection for computer programs and on the possibilities in the field of international arrangements, with a view to facilitating the access of developing countries to information on computer software. Following a meeting of an Advisory Group of Governmental Experts in 1971, an Advisory Group of Non-Governmental Experts met to assist the International Bureau in the preparation of the Model Provisions and concluded its work in 1977.

2. The Model Provisions were published by WIPO in four languages: English, French, Russian, Spanish. They were widely distributed, mainly to the governments of the member States of the Paris Union for the Protection of Industrial Property and to interested intergovernmental and non-governmental organizations. A German translation was published in the Federal Republic of Germany and a Japanese translation is in the course of preparation.

3. The purpose of the Model Provisions is to assist countries in complementing, or introducing certainty into, their laws applicable to the protection of computer software; they do not necessarily require adoption in a separate law on the protection of computer software since in many countries the principles contained in the Model Provisions may simply amount to clarifications or extensions of existing legal rules and could be incorporated in existing laws, for example, partly in the copyright law and partly in the law on trade secrets or unfair competition (see the Introduction to the Model Provisions, paragraphs 22 and 23).

---

1In the periodical Gewerblicher Rechtsschutz und Urheberrecht (GRUR) 1978, pp. 286 to 291.
4. While concentrating on the protection of computer software under national laws, the Advisory Group of Non-Governmental Experts only briefly considered, in its 1976 session, the question of an international treaty on this matter. This question has been included in WIPO's program for 19791 and it is submitted in the present document to the Expert Group. The present document, however, not only examines the possibility of a treaty; it also deals with other measures which could enhance international cooperation in the field of legal protection of computer software, in particular, the possibility of international deposit of computer software.

Desirability of a Treaty for the Protection of Computer Software

5. General considerations. In the whole field of intellectual property, computer software is probably the sector of creativity whose economic importance is at present growing faster than any other sector. The Model Provisions refer to an estimate of the amount spent on the creation and maintenance of software systems, namely, 13 billion US dollars per year.2 This estimate is certainly no longer valid; in view of the growth of the computer software sector, the amount should now be much greater. Thus the considerations set forth in the Introduction to the Model Provisions3 with respect to the desirability of legal protection of computer software have gained additional importance. Nevertheless, to the knowledge of the International Bureau of WIPO, the existing possibilities of protection under national laws do not seem to have changed as compared with the time when the Model Provisions were prepared; although the question seems to be under active consideration by the governments of several countries, the adoption of legislation on the protection of computer software does not seem to have materialized so far. One of the reasons for this may be precisely the current dynamism of the software sector, which as yet has left no time for the stabilization of legal concepts.

6. The existing international conventions. While at the national level protection of computer software may be based on copyright law, on the law against unfair competition (in particular, protection against violation of trade secrets) and—to a limited extent—on patent law,4 at the international level several conventions appear to be applicable.

7. In so far as protection against unfair competition and protection of inventions (in the form of patents or in the form of inventors' certificates) are concerned, the Paris Convention for the Protection of Industrial Property (hereinafter referred to as "the Paris Convention") applies. This means that in particular the provisions on national treatment (Articles 2 and 3), on patents (Articles 4, 4bis, 4ter, 4quater, 5a, 5d, 5bis, 5ter, 5quater and 11) and on unfair competition (Articles 10bis and 10ter) are to be taken into account. The provisions on patents have only limited importance in so far as computer software is concerned. The national laws of several countries exclude computer software from patent protection. In other countries patent protection is normally not available for computer software because software is considered not to be an invention (i.e., a solution to a technical problem) but only a method of using a machine, or because the condition of inventive step can be fulfilled only in very rare cases.5 The application of the provisions on unfair competition depends on the extent to which protection of computer software can be granted in the form of protection against unfair competition. The Model Provisions (Section 5) do not expressly distinguish between acts of unfair competition and other unlawful acts, and there are no means of easily identifying those acts which are to be considered acts of unfair competition. The obligations of member States of the

---

1 See document AB/IX/2, GIP.04.
2 See paragraph 6(a) of the Introduction (with reference to the (United Kingdom) Report of the Whitford Committee on Copyright and Designs Law).
3 In paragraph 6.
4 See the Introduction to the Model Provisions, paragraph 7(a).
5 See the Introduction to the Model Provisions, paragraph 7(a).
Paris Union under Article 10bis in respect of computer software cannot therefore be easily determined. It is not impossible that some of the acts which would be unlawful under the Model Provisions do not fall under Article 10bis and that as far as those acts are concerned the national treatment principle (Articles 2 and 3) does not apply (because they are outside the scope of the protection of industrial property).

8. In so far as copyright protection is concerned, the Berne Convention for the Protection of Literary and Artistic Works (hereinafter referred to as "the Berne Convention") applies. This means that in particular the provisions on national treatment (Article 5(1)), on formalities (Article 5(2)) and on minimum protection (for example, Articles 6bis, 7, 8, 9, 11bis, 1liter and 16) are to be taken into account. Although it seems to be generally accepted that computer software could enjoy copyright protection, provided that the conditions of copyright law are fulfilled, such protection does not—or at least does not always—meet the specific need for protection of computer software. In particular a gap may exist with respect to the probably most important—aspect of protection, namely, the protection against use of computer software in the control of the operations of a computer (Section 5(vi) of the Model Provisions). Copyright laws normally do not grant protection against any use of a literary or artistic work. They protect only against reproduction and public performance and communication to the public. Thus the unauthorized use of computer software normally would be covered by copyright law only if it involves reproduction of the software but not in other cases. One of the main purposes of the Model Provisions is precisely to fill this gap. However, the Berne Convention does not require the States that are party to it to provide for protection of the said kind.

9. Desirability of additional treaty provisions. The preceding considerations have shown that the existing international conventions present uncertainties and gaps with respect to international obligations concerning the legal protection of computer software. The following aspects will in particular have to be examined.

(a) As regards national treatment, uncertainty exists as to a possible area of protection of computer software which is covered neither by the concept of industrial property nor by the concept of works protected by copyright. Here an additional treaty provision would be desirable in order to ensure that Contracting States have to grant national treatment in respect of the protection of computer software, whatever the form of such protection may be.

(b) As regards minimum protection, uncertainty exists as to the extent of protection to be granted in accordance with Article 10bis of the Paris Convention. For example, it is not sure whether the unauthorized use of computer software in the control of a computer constitutes an act of unfair competition within the meaning of Article 10bis(2), i.e., an "act of competition contrary to honest practices in industrial or commercial matters." In any case the provisions of the Berne Convention on minimum protection do not cover the said use. In view of the importance of this aspect of computer software protection, it appears to be desirable to ensure protection through treaty provisions, possibly also with respect to other acts to which the Model Provisions refer.

(c) A gap may also exist in the case of the situation referred to in Article 5ter of the Paris Convention. This Article does not provide for protection but—on the contrary—obliges a Paris Union member country to exclude patent protection in the case of the use of patented devices on vessels, aircraft or land vehicles which temporarily or accidentally enter the said country. The underlying idea of this provision is to prevent patent rights from being exercised in the case of the use of certain devices in the construction or operation of vehicles which only temporarily or accidentally enter a country. The exercise of such rights would be in conflict with the public interest in maintaining freedom of transport. The Model Provisions (Section 6(3)) have adopted the principle of Article 5ter for the kind of protection they recommend (i.e., not patent pro-

---

1 See the Introduction to the Model Provisions, paragraph 7(b).

2 See Articles 9 and 14 of the Berne Convention.
tection but protection sui generis, which is not covered by the said Article. Moreover, they have extended the said principle to the presence of software (without use) and to spacecraft, the latter aspect taking into account one of the most important uses of computer software. In view of the interest in maintaining freedom of transport, it appears to be desirable to ensure through treaty provision the application of the principle contained in Article 5ter of the Paris Convention as included in the Model Provisions.

10. If it is desirable to provide for a system of international deposit of computer software (see paragraph 18, below), the legal basis for such a system would most appropriately be an international treaty, following the example of other international deposit and registration systems administered by the International Bureau. This aspect would have to be added to the list of items to be covered by additional treaty provisions.

11. Revision of existing conventions or adoption of a new treaty. As referred to in paragraphs 7 and 8, above, the Paris Convention and the Berne Convention are relevant in respect of the legal protection of computer software. The adoption of additional treaty provisions, whose desirability has been outlined in paragraph 9, above, could be achieved by a revision of the said Conventions. However, such a revision, which preferably should be effected simultaneously for each of the two Conventions, would obviously be an operation requiring a considerable amount of preparatory work and expense. Moreover, since there are countries which have treaty relations only in the field of industrial property or only in the field of copyright because they are party only to the Paris Convention or only to the Berne Convention, it would seem to be necessary to include in each of those Conventions the whole set of desirable treaty provisions. This might lead to certain contradictions: for example, computer software might have to be inserted both in the definition of industrial property and in the definition of works protected by copyright. Moreover, the organization of a joint committee under the said Conventions, which would have the task of preparing the revision proposals, appears to be a complicated operation from the point of view of management and decision-making. The preparation of an additional treaty, although in general also not a desirable solution in view of the constantly increasing number of treaties, seems therefore to be a simpler and more economical solution. In any case an additional treaty would be necessary if treaty provisions should be adopted on the establishment of an international deposit system.

Possible Contents of a Treaty for the Protection of Computer Software

12. A new treaty for the protection of computer software would have the objective of providing for international obligations with respect to the questions referred to in paragraph 9, above, namely, national treatment, minimum protection and exclusion of protection in the case of special situations in international transport. In addition, the treaty could have the objective of establishing a system of international deposit (see paragraph 10, above, and paragraph 18, below). In order to achieve those objectives certain additional provisions are required, namely, provisions dealing with definitions as well as administrative and final provisions.

13. The structure of such a treaty would be simple: it would start with definitions; subsequently, it would contain the substantive provisions, then provisions on international deposit (where applicable) and finally administrative and final provisions. An example of such a treaty is the Vienna Agreement for the Protection of Type Faces and their International Deposit (hereinafter referred to as "the Vienna Agreement"), which in substance deals with similar questions.

14. The provisions of the treaty would have the following contents:

(a) As regards the definition of computer software, the treaty could reproduce Section 1(i) to (iv) of the Model Provisions. Thus computer software would be defined as meaning either a computer program or a program description or supporting material or several of those items. "Computer program" is defined in the Model Provisions (Section 1(i)) as "a set of instructions capable, when incorporated in a machine-readable medium, of causing a machine having information-processing capabilities to indicate, perform or achieve a particular function, task or result." "Program description" means "a complete procedural presentation
in verbal, schematic or other form, in sufficient detail to determine a set of instructions constituting a corresponding computer program" (Section 1(ii) of the Model Provisions). "Supporting material" means "any material, other than a computer program or a program description, created for aiding the understanding or application of a computer program, for example problem descriptions and user instructions" (Section 1(iii) of the Model Provisions). The essential feature of this definition is that "computer software" is not identical with "computer program." A computer program is only the set of instructions which controls the operation of a computer ("machine having information-processing capabilities") in a particular way.

(b) Normally, the computer program is the end product of a complex process. First the problem to be solved by the computer has to be analyzed (for example, the task may be to calculate salaries, taking into account all kinds of additional allowances and certain tax payments). Then a general method for solving the problem must be adopted or devised in order to give an idea of the main stages in the running of the program. Each of these stages must then be broken down into more and more detail until finally the instructions are developed which will enable a computer for which the program is designed to perform all the operations necessary for the execution of the program. In this process a problem description may first be prepared and then, progressively, descriptions—or schemes in the form of flow-charts, for example—of the method adopted, of the main stages of the program and of the steps to be taken in the implementation of those stages. Therefore the definition of computer software includes "program descriptions," a term which is used in the Model Provisions in a much narrower sense than normally understood. A program description can be considered computer software only if it is complete, that is to say, if it covers all the steps to be taken in the execution of a computer program. In addition, the description must be sufficiently specific in order to determine a "corresponding computer program." This means that the program description sets out all the instructions to be followed by the computer so that the only thing that remains to be done is to convert them into a form that is acceptable to the computer. It should be noted that a program description does not have to be capable of transformation into only a single set of instructions; a number of different but similar sets of instructions could in most cases be directly developed from the same program description.

(c) In addition to defining "computer program" and "program description," the Model Provisions include in the definition of "computer software" the term "supporting material," which covers explanatory documentation such as user instructions which are often indispensable and which inter alia explain how the program is to be used and how the data are to be prepared and indicate the kinds of computers in which they can be used. Under the Model Provisions the extent of protection given to supporting material is smaller than that given to computer programs and program descriptions. This would have to be taken into account for the purposes of any provisions on minimum protection provided by a treaty.

(d) The Model Provisions contain in Section 1(v) a definition of the proprietor of computer software. This definition is mainly necessary in order to determine the person who is entitled to the protection and whose authorization in respect of certain acts is relevant to the question whether the act is lawful or unlawful. In the Model Provisions, the definition of proprietor consists of two parts. First, it deals with the simple case where the computer software was created by a person who was not under any contractual obligations. In that case the computer software quite naturally belongs to the creator. However, more frequent is the case of creators who work under contract (for example, employees). In that case the question arises who is the proprietor of the computer software once it has been created: for example, because of the contractual obligations of the creator as an employee, would the employer immediately become the proprietor of any computer software created by the employee? The Model Provisions deal with this question in Section 2, according to which the software belongs to the employer if it was created by an employee in the course of performing his duties as employee and if the employment contract does not provide otherwise. For the purposes of a treaty such a provision could create difficulties in view of the divergences of the national laws on inventions and creations made by employees. It would therefore be preferable to leave this question to the applicable national laws. The "proprietor" could therefore be defined as the natural person who created the software or any other proprietor in accordance with the applicable national law.
(e) The treaty on the protection of computer software would also require some general definitions, such as a definition of "Contracting States" (i.e., the States party to the treaty), "Organization" (i.e., the World Intellectual Property Organization) and "Director General" (i.e., the Director General of the Organization).

(f) The substantive provisions of the treaty would belong to three different categories (see paragraph 9, above). The first category concerns national treatment. The second category relates to minimum protection. The third category concerns an exclusion from protection. As a general heading for those categories of provisions a basic principle could be included in the treaty, which would state that the Contracting States are obliged to protect computer software to the extent laid down by the provisions of the treaty and that more extensive protection under national laws and other treaties is not excluded. The latter provision is particularly important in order to safeguard more extensive protection granted under the Berne Convention.

(g) As regards national treatment, the treaty could contain a provision stating that each Contracting State is obliged to grant to nationals or residents of other Contracting States the protection afforded to its own nationals with respect to computer software.

(h) As regards minimum protection, the treaty could deal with two aspects. First, it could oblige Contracting States to grant protection against certain acts which the treaty would define. Second, it could prescribe a minimum period of time during which such protection is to be granted. In all the aforementioned respects, the treaty could follow to a large extent the Model Provisions.

(i) The acts against which protection should be granted could be those referred to in Section 5 of the Model Provisions. Thus the treaty could oblige Contracting States to grant protection against the following acts:

(i) disclosing the computer software or facilitating its disclosure to any person before it is made accessible to the public with the consent of the proprietor;

(ii) allowing or facilitating access by any person to any object storing or reproducing the computer software, before the computer software is made accessible to the public with the consent of the proprietor;

(iii) copying by any means or in any form the computer software;

(iv) using the computer program to produce the same or a substantially similar computer program or a program description of the computer program or of a substantially similar computer program;

(v) using the program description to produce the same or a substantially similar program description or to produce a corresponding computer program;

(vi) using the computer program or a computer program produced as described in (iii), (iv) or (v) to control the operation of a machine having information-processing capabilities, or storing it in such a machine;

(vii) offering or stocking for the purpose of sale, hire or license, selling, importing, exporting, leasing or licensing the computer software or computer software produced as described in (iii), (iv) or (v);

(viii) doing any of the acts described in (vii) in respect of objects storing or reproducing the computer software or computer software produced as described in (iii), (iv) or (v).

If it is felt that it would be going too far to establish minimum protection in respect of all the acts referred to, a selection could be made. In any case it appears to be indispensable to include the provision under (vi) (use of computer program to control a computer).
(j) As stated in the Model Provisions, protection of the kind referred to above does not require the adoption of a special law. Such protection could be granted under the existing provisions of the copyright law or of the law on the protection of trade secrets. Possibly several countries which have important activities in the field of the creation of computer software could accept such a treaty provision without modifying their national laws.

(k) The Model Provisions provide for protection against the acts referred to above regardless of any formality, in particular deposit or registration. The same should apply with respect to minimum protection under the treaty, which should expressly state that compliance with formalities may not be required. Of course, this provision would not affect any protection granted under national laws in excess of the minimum required by the Convention.

(l) It would have to be clarified in the treaty that the protection only applies to computer software which is original in the sense that it is the result of its creator's own intellectual effort (see Section 3 of the Model Provisions). Thus a general concept of copyright law would apply to computer software in order to exclude software which, because of its lack of creativeness, does not deserve protection. Moreover, as in Section 6(2) of the Model Provisions, the treaty would have to state that the protection does not extend to independent creations (i.e., creations which have been made without access to the protected computer software).

(m) As regards the duration of the minimum protection, the treaty could simply reproduce the provisions of Section 7 of the Model Provisions. Thus the protection would start at the time of the creation of the computer software and expire, subject to a maximum of 25 years from the date of creation, at the end of 20 years calculated from the earlier of the following dates:

(i) the date when the computer program is, for purposes other than study, trial or research, first used in any country in controlling the operation of a machine having information-processing capabilities, by or with the consent of the proprietor;

(ii) the date when the computer software is first sold, leased or licensed in any country or offered for those purposes.

A simpler solution would be to provide for a minimum duration of a given number of years—for example, fifteen—starting from the date of creation.

(n) In the case of the special situation covered by Article 5 of the Paris Convention (see paragraph 9(c), above), the treaty could follow Section 6(3) of the Model Provisions and state that no Contracting State shall extend protection of computer software to the presence of the computer software on foreign vessels, aircraft, spacecraft or land vehicles, temporarily or accidentally entering its waters, airspace or land, or to any use of computer software during such entry.

(o) If it appears desirable to include provisions on the establishment of an international deposit system, the drafting could be based to a large extent on Articles 12 to 25 of the Vienna Agreement.

(p) Once agreement has been reached on the substantive provisions to be included in the treaty for the protection of computer software, the drafting of the necessary administrative and final provisions would appear to be easy. They could follow the general pattern of conventions and treaties administered by WIPO. However, it might be worth while to examine whether under the treaty a union in the traditional sense of the conventions and treaties administered by WIPO should be established, that is to say, whether the Contracting States would form an assembly and would have to pay contributions in view of their being party to the treaty. Perhaps a simpler form of administration would be sufficient, namely, provisions which would deal only with the revision of the treaty, the possibility of becoming party to the treaty, the entry into force of the treaty, the denunciation of the treaty, signature and languages of the treaty, and depositary functions and notifications. As regards the possibility of becoming party to the treaty, the question arises whether any State should be able to become party to the treaty or whether only States which are already members of one or several of the basic conventions in the field of intellectual property should be able to do so.
Other Measures Which Could Enhance International Cooperation in the Field of Legal Protection of Computer Software

15. General considerations. A treaty for the protection of computer software, as described in the preceding paragraphs, would have the sole purpose of ensuring the legal protection of computer software. However, intellectual property protection in general serves not only the purpose of granting rights to inventors and creators but also the purposes of public interest. In the industrial property field this has led to a particular balance of interests as regards the protection of inventions and designs: the inventor or creator of a design is protected only if he discloses the invention or design to the public. Thus anybody is enabled to use the invention or design after the expiration of the protection. Such a system requires the intervention of a government agency with which applications for protection are filed and which grants titles of protection. At the international level, cooperation in the case of such systems takes place in the form of treaties which permit the filing of one application in respect of several countries and provide for one international publication. Examples of such treaties, which result in an important simplification of procedures, are the Patent Cooperation Treaty and the Hague Agreement Concerning the International Deposit of Industrial Designs.

16. Deposit of Computer Software. During the preparation of the Model Provisions, the question was examined whether the establishment of a system of deposit of computer software should be recommended, either as a mandatory system so that protection of computer software would depend on the deposit, or as an optional system so that deposit would offer certain advantages. In the end, the Model Provisions did not recommend such a system but it was admitted that important arguments militated in favor of deposit. The passages of the Introduction to the Model Provisions which give a full account of the relevant considerations are reproduced in the Annex to this document.

17. Apart from countries which provide for deposit or similar formalities as a condition of copyright protection, there does not seem to be any country which has so far established a system of deposit of computer software, nor have any plans become known for the setting up of such a system. It may, however, be that this question still requires further examination by governments and those concerned by the protection and dissemination of computer software.

18. The setting up of an international system of deposit of computer software would normally presuppose the existence of national deposit systems. However, it is not inconceivable that an international system could be established independently of any national deposit systems. Such an international system could present the advantage that an international information system on existing computer software would be established. Such a system appears to be desirable in the general interest, in order to enhance dissemination of computer software. Its viability, however, depends entirely on giving sufficient encouragement to proprietors of software to make use of the international system of deposit. Several methods of such encouragement could be studied. Probably the most efficient method would be to offer advantages for the legal protection of computer software, and in this respect the considerations put forward in the Introduction to the Model Provisions (see the Annex to this document) require further examination.

19. The Expert Group is invited to express its views on the questions raised in this document.

[Annex follows]
(Extract from the model provisions on the protection of computer software)

Deposit of Computer Software

9. The model provisions do not make the protection of computer software dependent upon its deposit or registration with a national authority or upon compliance with other formalities, such as the marking of the computer software. Countries interested in the model provisions might like to consider the desirability of including in their laws a mandatory provision of the kind indicated or of at least providing for an optional system for the deposit or registration of computer software. The arguments for and against such a mandatory system are outlined below, followed by those for and against an optional system.

10. The basic argument in favor of a mandatory system of deposit is that, in return for the special protection accorded, the proprietor of the rights in computer software should be obliged to deposit the software. Such a requirement would ensure the eventual disclosure of the software to the public with the consequent advancement of the art. It would also enable third parties to direct their efforts to creating computer software in new fields. Moreover, the deposit would promote the dissemination of computer software, facilitate its sale or licensing and increase certainty concerning the object of protection in each case, which would otherwise be difficult to define. These arguments apply to some extent also to the less strict requirement for the registration of computer software, under which the proprietor would simply have to provide particulars of the computer software, together with an abstract of it, which would be disclosed to the public.

11. A further argument in favor of a mandatory system of deposit or registration is that the proprietor should give notice to the public that a certain item of software is protected as well as an indication of when the term of protection expires, a date that is not easily ascertainable due to the fact that computer software is not normally published. In this connection, a number of experts feel that computer software, including additions updating a computer program, should at least be marked with an indication of the name of the proprietor of the rights and the date of their expiration.

12. The requirement of adequate disclosure to the public in return for the rights granted by the State is a fundamental obligation under patent law. Supporters of the basic argument, outlined in the first sentence of paragraph 10, above, are thus adopting a patent law approach. If such an approach is adopted, it is reasonable that it should apply to the system of legal protection of computer software as a whole, in particular to the rights granted under the law. However, for the reasons indicated in paragraph 7(a) and (b), above, the model provisions are essentially based on a copyright law approach: the rights granted are consequently less extensive than those of a patentee: they do not protect the concepts underlying computer software and cannot prevent a person from independently creating the same computer software and using it. The primary purpose of the protection granted is not to allow proprietors to profit from a period of exclusive rights as a reward for the creation and disclosure of computer software, but simply to encourage creation and dissemination of computer software and to prevent the misappropriation of the results of another's valuable work, thus introducing legal security which should both facilitate trade in computer software and encourage proprietors to make it more generally available.

13. The advantages of a mandatory deposit system have also been questioned. Countries adopting it would have the difficult task of devising and administering a system for the classification and indexing of computer software; otherwise, in view of the vast amount of computer software created each year, the advantages of disclosure and notice to the public would be nugatory. Such a system would be facilitated if it were established at the international level. Furthermore, in order to fully achieve its purposes, a deposit system would have to provide for a time limit after which the depositor could no longer prevent disclosure of the software to the public. The fixing of such a time limit may, however, give rise to problems: if, taking into account the vulnerability of the proprietor's position in the case of complete disclosure, the time limit is fixed in a way that allows for a period of substantial secrecy, the advantages of disclosure for the public would be reduced or even eliminated.

14. With regard to a requirement for compliance with formalities in general, a number of disadvantages have been referred to. It has been stated that compulsory formalities would not be in the interest of the small software enterprises or individual users, who might be unaware of the need to comply with them: they might also render the system of protection unattractive since some people would seem to be in favor of such a system but opposed to deposit. A mandatory deposit might even have a discouraging effect on creators if they have to make a full disclosure of their creations. In view of the copyright law approach that has been adopted, it is above all logical that the protection provided by the model provisions should not be made dependent in any way (as far as either the existence or its enforcement before the courts is concerned) upon compliance with formalities, since there is no such requirement under the copyright laws of the
majority of countries. On the other hand, if the copyright law of a country adopting the model provisions does contain a requirement for the deposit and/or marking of protected works, such a country would presumably include the same requirement in any law based on the model provisions. Moreover, any formalities would create problems in view of the fact that computer programs—and even commercialized standard software—are frequently updated.

15. In conclusion, it is suggested that countries considering the question discussed above should first decide the basic approach to the system of protection to be established. If a patent law approach were adopted, it would be logical for a requirement for compliance with formalities to be included in legislation based on the model provisions, which, as a whole, would have to be examined in the light of such an approach. If the principle of the model provisions (copyright law approach) were adopted: countries whose copyright law contains no requirement for compliance with formalities would have to consider, on the balance of convenience, whether and to what extent such a requirement should be introduced for forms of computer software that are not protected by copyright; other countries would presumably adopt the same solution as that contained in their copyright law.

16. Some of the arguments outlined above also apply to the question whether a system of optional deposit of computer software should be adopted. Under one possible system that has been discussed, the proprietor of the rights in computer software would be able to deposit with a national authority a computer program and/or any or all the documentation constituting software and relating to the program. Within that optional deposit system there would be a registration system which would be mandatory in the sense that, if a deposit were made, a certain amount of information would have to be furnished for the purpose of publication; one of the most important requirements in this connection would be the furnishing of an abstract of the computer program which had been deposited or, if it had not been deposited, to which the deposited software related. To the extent that they had not been subjected to secrecy by the depositor, the contents of deposits would be accessible to the public. The deposit would not confer any legal rights but merely certain presumptions as to the time of the creation of the software.

17. An optional deposit system of the kind referred to would have three main purposes:

(1) to enable the public to have direct access to non-secret computer software;

(2) to provide the depositor with evidence of the prior existence of this computer software;

(3) through publication of an abstract of the computer software, to enable the public to know the kind of software available.

18. Doubts have been expressed, however, as to whether the first-mentioned purpose could be achieved through a deposit system of the kind indicated. It might be impracticable to require the deposit of computer programs in machine-readable form, and would be impossible for a depository authority to provide copies of such programs unless it had a wide range of machinery for doing so, and it might not, in any event, be desirable that the public should be given copies of programs in machine-readable form (even if they are not secret) owing to the danger of infringement of the rights in the program; the deposit would be of limited value if only hard copies of the program or its related software were available to the public. Moreover, the public could never be sure that a computer program had not been updated since its deposit; thus, potential users would in any event have an interest in directly establishing contact with the depositor. Doubts have also been expressed concerning the second purpose mentioned in the preceding paragraph: the same evidential advantages could perhaps be achieved through the deposit of the computer software elsewhere, with a notary public for instance. If all that remains is the third purpose mentioned, this could be achieved through the simpler registration system (see paragraph 20, below).

19. It has been suggested that a full deposit system could be more meaningful if it were made more attractive to potential depositors by the enhancement of advantages to them, for example by the grant of a longer term of protection to deposited software. In addition, the question could be considered of providing for an international priority right to be based on deposit. However, it should be borne in mind that too great incentives for deposit would have the same effect as making deposit compulsory, a question that has been discussed above.

20. Some of the advantages mentioned above could be obtained through an optional registration system without any legal effects: the information registered could include an abstract of the computer program, the machines on which it could be used and the languages, possibly the price and other terms for the use of the software and possibly also the date of expiration of the protection.

21. The usefulness of an optional deposit or registration system would have to be examined in the context of the needs of software producers and users, and of the services already existing in that field. Any such system having no legal effects would probably have to be considered outside the framework of a system of legal protection of computer software.