

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
Department of Electrical Engineering and Computer Science  
6.001—Structure and Interpretation of Computer Programs  
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**Lecture Notes – November 21, 1996**

Intellectual Property Issues

Today's lecture will touch on issues of intellectual property rights and how software fits into this framework.

The three basic mechanisms for protecting intellectual property are: Trade secret, Copyright and Patent.

A **Trade Secret** is any information that provides a competitive advantage and is kept secret. It has no limits and unlimited lifetime. It is abridged by stealing the information and is legally avoided by independent discovery, emergence into the public domain or reverse engineering.

A **Copyright** is an original work of authorship, fixed in a tangible medium, and the copyright covers the entire work. It is limited to the life of the author plus 50 years, and covers the expression of the idea but not the underlying idea itself. Copyrights explicitly exclude procedure, process, system, method of operation, concept or principle. Copyrights are abridged by copying, and are legally avoided by independent creation.

A **Patent** is an application of an idea to create something novel, useful and non-obvious. It covers machines, processes and new forms of matter. It covers only the claims specified in the patent itself. It provides the right to exclude others from making, selling or using the covered material. It requires that the inventor adequately disclose the invention. Patents are currently limited to 20 years from date of filing (used to be 17 years from date of issue), and exclude math formulas, natural laws and mental steps. Patents are expensive to obtain, and are issued by the US PTO. They are abridged by any use of the application, and can be avoided by careful search.

A key question under current debate is what protection should be extended to software. Is this a work of authorship or is it an invention? (i.e., should it be covered by copyright or by patent)? How does one deal with similarity of software with regard to patent infringement? What constitutes a non-obvious and/or novel extension of existing work?