SOFTWARE logo
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SOFTWARE means:

Intellectual creation expressed in a symbolic language

"a computer program is an expression, in any language code or notation, of a set of instructions intended to cause a device having digital information processing capabilities to perform a particular function"
(AUS Copyright Act)

" a set of statements or instructions to be used directly or indirectly in a computer to bring about a certain result)
(US Copyright Act)

Programmer activities:

1) ideation of a principle finalised to a specific objective

2) choice among different alternative ways

3) writing of the specific list of steps selected (source code)

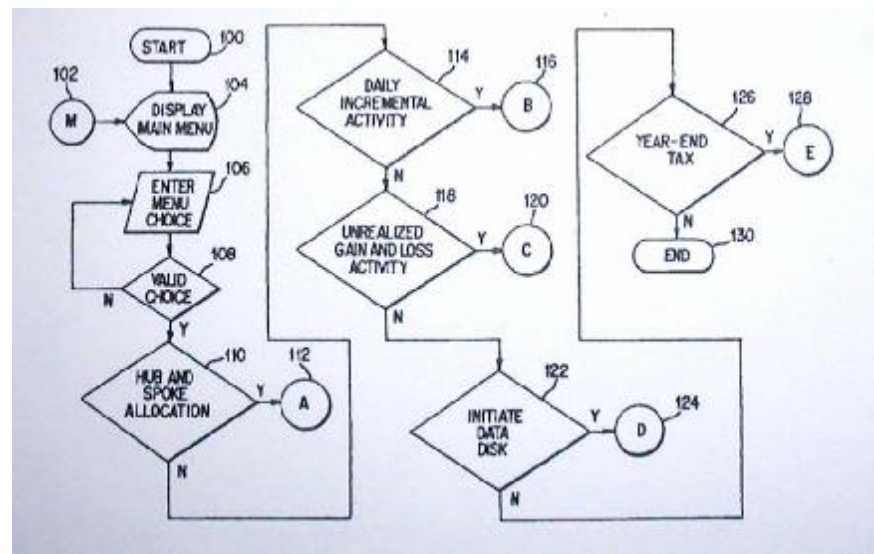4) translation of the source code in object code (binary code)

Algorithm

"a prescribed set of well-defined, unambiguous rules or processes for the solution of a problem in a finite number of steps"

(Samuelson, Davis, Kapor & Reichman
A Manifesto concerning the Legal protection of Computer Programs
1994)

"Algorithm means a method of combining, in a computer program, instruction given to a computer"

(Japanese Copyright Act)

Binary Code

Object program
Series of two character (0 - 1), that symbolise two opposite
state, on the hardware, meaning:
0 = off 1= on

SOFTWARE

CODES

(source code)   **(object code)**

```
put_proc ("SHOW", APROC, SHNUL, ESHOW,
1, 0, GMEYBE/GLIST/GVALUE, TSPECIAL);

LIBENTRY void SHOW (type value)
VTYP type;
VDAT value;
{
char buf [MAXSTRING + 1];
        if (type != 0)
            {
            vencode (buf, MAXSTRING, type,
            value);
            SCRAttrib (0);
            ConsPuts (buf);
            }
}
```

Symbol	Binary representation
a	0000 0000
b	0000 0001
c	0000 0010
d	0000 0011
. . .	
+	1111 1110
|	1111 1111

Two aspects:

1) Functional (problem /solution approach)

2) Expressive (way selected to perform 1)

IDEA / EXPRESSION
Dichotomy

Independency / Originality ?

Two ways of protection:

1) PATENT (scope: protection of a **applied** idea)
(equivalency covered)
SUBSTANTIVE

2) COPYRIGHT (scope:protection of an idea's **expression**)
(equivalency not covered)
FORMAL

European Patent Convention

Art 52

" (1) European patents shall be granted for any inventions which are susceptible of industrial application, which are new and which involve an inventive step.

(2) The following in particular <u>shall not</u> be regarded as inventions within the meaning of paragraph 1:

...

C) <u>programs for computers</u>

(3) the provisions of paragraph 2 shall exclude patentability of the subject-matter or activities referred to in that provision only to the extent to which a European patent application or European patent relates to such subject-matter or activities <u>as such</u>"

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GUIDELINES
European Patent Convention
C-IV

*"A computer program claimed by itself or as a record on a carrier, **is not patentable** irrespective of its content. The situation is not normally changed when the computer program is loaded into a known computer. If however the subject- matter as claimed makes a technical contribution to the known art, patentability should not be denied merely on the ground that a computer program is involved in its implementation"*

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European Patent Convention
C-IV

*"This means for example, **that program-controlled machines and program-controlled manufacturing and control processes should normally be regarded as patentable subject-matter**. It follows also that, where the claimed subject- matter is concerned only with the program-controlled internal working of a known computer, the subject matter could be patentable if it provides a technical effect"*

GUIDELINES
European Patent Convention
C-IV

"*Consider the case of a known data-processing system with a small fast working memory and a larger but slower further memory*. Suppose that the two memories are organised under program control, in such a way that a process which needs more address space than the capacity of the fast working memory can be executed at substantially the same speed as if the process data were loaded entirely in that fast memory. **The effect of the program virtually extending the working memory is of a technical character and might therefore support patentability**"

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TRIPS Agreement

(Art. 9)

2. Copyright protection shall extend to **expressions** and **not to ideas**, procedures, methods of operation or mathematical concepts as such.

(Art. 10)

Computer Programs, whether in <u>source</u> or in <u>object</u> code,

shall be protected as **literary works** under the Berne

Convention (1971)

EC DIRECTIVE 91/250

Art 1

- Protection of the computer programs by copyright **including their preparatory design material**
- Protection shall apply to the **expression** in any form of a computer program
- Ideas and principles which underlie any element of a computer program, including those which underlie its interfaces, are <u>not</u> protected by copyright

• Case MICROSOFT, 21 april 2004 – European Commission C (2004) 900

• Open Source Community

• Compulsory License and de-compilation : differences

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