

Programming Practice I

Examples

Instructions: Type each of the following programs and then select *run* to execute them. They illustrate the main programming features needed to make computer programs, thus, observe carefully whatever appears on the screen.

Note: Each program must be saved in a different file, do not try to put all the programs one after another. Also, the programs provided are only images, so no copy and paste can be done.

Historically, every line in BASIC started with a number.

Send message to the screen. →

Assign initial value to variables. →

Request data from the keyboard. →

```

10 print "Hello Everybody"
20 let R = 5
25 let S = 20
30 print "5*20 = "; R*S
40 input num
50 print "twice your input is: "; 2*num
  
```

To prevent confusions, multiplication is always indicated with an asterisk.

Message Value

Connector: allows printing different data in the same line.

Counter →

```

10 i=1
20 print i; ". hello"
30 i=i+1
40 print "Do you want to play again (yes=1/no=0)? "
50 input ans
60 if ans = 1 then goto 20
70 print "Thanks for playing"
  
```

Condition: Is *ans* equal to 1?

Jump to instruction 20 if condition is met; otherwise, continue with the next line.

```

10 print "Hi! What is your name?"
20 input nombre$
30 print "Hello"; nombre$
  
```

Variables to hold alphanumeric values must end with the sign \$

Exercises

Instructions: For each of the following exercises, elaborate a program in BASIC using as reference the examples previously provided. In case of experiencing problems while making either the algorithm or the program, write down any difficulties you may have found.

- 1) Make a program to display a greeting.
- 2) Make a program to request a person's name and greet that person.
- 3) Make a program to add **any** two numbers.
- 4) Make a program to calculate the hypotenuse of a triangle with sides 3 and 4.

Hint: If $a = 3$ and $b = 4$, then $c = (a^2 + b^2)^{1/2}$

- 5) Make a program to calculate the hypotenuse of a triangle given **any** two sides.
- 6) Make a program to calculate the area for a triangle given the length and height.
- 7) Make a program to print the first 100 natural numbers.
- 8) Make a program to indicate if a number is positive or negative.