

Comments

To add a comment

```
// This is my comment
```

Input and Output

output

```
OUTPUT "Enter your name"
```

input

```
INPUT name
```

Assignment

To assign a value to a variable

```
age ← 24
```

To assign a value in an array

```
names [2] ← "Ali"
```

```
names [2,1] ← "Ali"
```

Selection

IF..THEN..ELSE

```
IF age = 24
    THEN
        OUTPUT "Age is" age
    ELSE
        OUTPUT "You are not" age
ENDIF
```

SWITCH..CASE..ENDCASE

```
INPUT animal
CASE OF animal
    "cow" : noise ← "moo"
    "cat" : noise ← "meow"
    "dog" : noise ← "woof"
    OTHERWISE : noise ← " "
ENDCASE
```

Iteration

FOR..TO..NEXT (count controlled loops)

```
FOR loop ← 1 TO 10
    count ← count + 1
NEXT loop
```

WHILE..DO..ENDWHILE (pre-condition loop)

```
WHILE number <> 333 DO
    INPUT number
    total ← total + number
ENDWHILE
```

REPEAT..UNTIL (post-condition loop)

```
REPEAT
    OUTPUT "Enter password"
    INPUT Password
UNTIL Password = "LetMeIn"
```

One Side Pseudocode Guide

Declarations

variable

```
DECLARE name : STRING
```

constant

```
CONSTANT pi ← 3.14
```

array

```
DECLARE ClassGrades : ARRAY [1:20] OF INTEGER
```

Operators

Comparison operators

These return **TRUE** or **FALSE**

Are they equal?

```
3 = 4
```

Are they NOT equal

```
5 <> 3
```

Less than?

```
8 < 2
```

Greater than?

```
6 > 4
```

Less than or equal to?

```
9 <= 4
```

Greater than or equal to?

```
7 >= 2
```

Arithmetic operators

These return a **number**

Add

```
3 + 4
```

Subtract

```
5 - 3
```

Divide

```
8 / 2
```

Multiply

```
6 * 4
```

Raise to the power

```
4 ^ 2
```

MOD

```
9 MOD 4
```

DIV

```
7 DIV 2
```

Logical operators

AND

```
name = "Fred" AND password = "fantastico"
```

OR

```
score < 50 OR score > 100
```

NOT

```
NOT lesson = "Computer Science"
```

Data types

INTEGER

```
5
```

REAL

```
10.87
```

CHAR

```
A
```

STRING

```
"Some text"
```

BOOLEAN

```
TRUE
```

File Handling

Open a file to read data

```
OPENFILE names.txt FOR READ
```

Open a file to write data

```
OPENFILE names.txt FOR WRITE
```

Read a line of data

```
READFILE names.txt, LineOfText
```

Write a file to write data

```
WRITEFILE names.txt, LineOfText
```

Close a file

```
CLOSEFILE names.txt
```

Library routines

These hide the code needed to carry out a task. We don't need to know how they work.

Length of a string

```
LENGTH ("Happy")
```

Convert to lower case

```
LCASE ("W")
```

Convert to upper case

```
UCASE ("Happy")
```

Substring

```
SUBSTRING ("Happy", 1, 3)
```

Round

```
ROUND (x, 2)
```

Random number

```
RANDOM ( )
```

Procedures and Functions

Procedures

```
PROCEDURE add (num1:INTEGER, num2:INTEGER)
    answer ← num1 + num2
    OUTPUT "Add", answer
ENDPROCEDURE
CALL add (5,6)
```

Functions

```
FUNCTION add (num1:INTEGER, num2:INTEGER) RETURNS INTEGER
    answer ← num1 + num2
    RETURN answer
ENDFUNCTION
OUTPUT "numbers added =", add ( 5, 6)
```