

Cambridge OCR Exam Reference Language

The rule on answers. GCSE J277 Section B: answer in Exam Reference Language or a high-level language such as Python; pseudocode, natural English or bullet points are not awarded marks. A Level H446: any pseudocode a competent programmer could follow.

Comments

```
//This function squares a number
```

Assignment

```
x = 3
name = "Louise"
```

Constants

```
const vat = 0.2
```

Defined in J277 only. The H446 appendix has no constant keyword.

Input

```
myName = input("Please enter a name")
```

Output

```
print("My name is Noni")
```

Integer division and remainder

```
17 DIV 5 // gives 3
12 MOD 5 // gives 2
```

Comparison

```
== != < <= > >=
```

Joining strings

```
print("Hello, your name is: " + name)
```

IF... ELSE

```
if answer == "Yes" then
    print("Correct")
else
    print("Error")
endif
```

Else-if chains

```
if answer == "Yes" then
    print("Correct")
elseif answer == "No" then
    print("Wrong")
else
    print("Error")
endif
```

CASE / switch

```
switch day :
    case "Sat":
        print("Saturday")
    case "Sun":
        print("Sunday")
    default:
        print("Weekday")
endswitch
```

Count-controlled loop

```
for i=0 to 9
    print("Loop")
next i
```

Prints "Loop" 10 times, 0 to 9 inclusive.

Pre-condition loop (WHILE)

```
while answer != "Correct"
    answer = input("New answer")
endwhile
```

Post-condition loop

```
do
    answer = input("New answer")
until answer == "Correct"
```

Runs once before the condition is checked.

Declaring a 1D array

```
array colours[5]
array colours = ["Blue", "Pink", "Green", "Yellow", "Red"]
```

array colours[5] has 5 elements, index 0 to 4. Arrays store a single data type.

2D arrays

```
array gameboard[8,8]
gameboard[1,0] = "Pawn"
```

Defining a procedure

```
procedure greeting(name)
    print("hello"+name)
endprocedure
```

Calling a procedure

```
greeting("Hamish")
```

Defining a function

```
function triple(number)
    return number*3
endfunction
```

Calling a function

```
y=triple(7)
```

By value and by reference

```
procedure foobar(x:byVal, y:byRef)
    ...
endprocedure
```

A-Level only. Values are passed by value unless stated.

String length

```
subject = "ComputerScience"
subject.length // gives 15
```

Substrings

```
subject.substring(3,5) // returns "puter"
```

Start index, then number of characters. 0 indexed.

Converting between types

```
str(345)
int("3")
float("4.52")
real("4.52")
bool("True")
```

Opening and reading a text file

```
myFile = open("sample.txt")
x = myFile.readLine()
myFile.close()
```

J277. The H446 appendix opens for reading with openRead("sample.txt").

Writing to a text file

```
myFile = openWrite("sample.txt")
myFile.writeLine("Hello World")
myFile.close()
```

H446: openWrite overwrites any previous contents. J277: writeLine on a file from open() writes to the END of the file.

Class and constructor

```
class Pet
    private name
    public procedure new(givenName)
        name=givenName
    endprocedure
endclass
```

A-Level (H446) only.

Not defined in this guide

Declaring a variable and its type; Records.

Examiners have penalised

- Half a condition
- A comma is not concatenation
- Renaming the variables you were given
- Flowcharts or structured English in Section B
- Off by one with a 0-indexed array
- Code after return never runs
- Procedure or function, decided by the return value