MODULE M PROGRAMMING · M24

Parameters and arguments

Original practice questions · 20 marks · ~25 minutes · OCR J277 spec 2.2.3

Name _____ Date _____

Instructions. Answer all questions in the spaces provided. The marks for each part are shown in brackets [ ]. The total for this worksheet is **20 marks**. Code is written in OCR Exam Reference Language. All data on this sheet is made up.

1

Total: 4 marks

A café till uses this program to add a service charge to a bill.

```
01 function addService(bill, percent)
02     extra = bill * percent / 100
03     return bill + extra
04 endfunction
05
06 total = addService(40, 10)
07 print(total)
```

(a) Identify the **two** parameters of the function `addService`. **[1]**

(b) Identify the line number where the function is called. **[1]**

(c) State the value that the parameter `percent` holds when the function is called. **[1]**

(d) State the output when the program is run. **[1]**

2

Total: 3 marks

(a) Tick (✓) **one** box in each row to show whether each statement about parameters is true or false. **[3]**

Statement	True	False
Inside a sub program, a parameter can be used in the same way as a variable.		
A sub program can only ever have one parameter.		
When a sub program is called, the values in the brackets are matched to the parameters in the order they are written.		

3

Total: 5 marks

A hardware warehouse uses this procedure to check its stock.

```
01 procedure stockMessage(item, quantity, minimum)
02     if quantity < minimum then
03         print(item + " low: order " + str(minimum - quantity))
04     else
05         print(item + " OK")
06     endif
07 endprocedure
08
09 stockMessage("bolts", 12, 20)
10 stockMessage("nuts", 30, 25)
11 stockMessage("washers", 15, 15)
```

(a) Complete the table to show what is output by each of the procedure calls on lines 09, 10 and 11. **[3]**

Call on line	Output
09	
10	
11	

(b) A programmer adds this line to the program:

```
12 stockMessage(20, "bolts", 12)
```

Explain why line 12 will **not** work as the programmer intended. **[2]**

4

Total: 2 marks

A hotel needs a program that prints a door sign for each of its 40 rooms. The programmer writes **one** procedure, `printSign(roomNumber)`, and calls it 40 times with a different room number each time.

(a) Give **two** benefits of using one procedure with a parameter, instead of writing separate code to print each room's sign. **[2]**

1

2

5 **Total: 6 marks**

A weather station stores a week of daily maximum temperatures, as whole numbers, in an array. It needs a function that counts how many values in an array are above a limit.

(a) Complete the function `countAbove` so that it: **[4]**

- takes an array of whole numbers and a limit as its two parameters
- counts how many values in the array are **greater than** the limit
- returns the count.

You must use either:

- OCR Exam Reference Language, or
- a high-level programming language that you have studied.

```
function countAbove(readings, limit)
```

```
endfunction
```

(b) The temperatures are stored in an array called `dayTemps`. Write **one** line of code that calls `countAbove` to count how many of the temperatures are above 30, and stores the result in a variable called `hotDays`. **[2]**

Total for this worksheet: 20 marks