MODULE M PROGRAMMING · M16

String handling: length, substring, case, concatenation and slicing

Original practice questions · 22 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 **22 marks**. Code is written in OCR Exam Reference Language, where the first character of a string is at index 0. All data on this sheet is made up.

1

Total: 5 marks

A ferry company stores the name of a stop in the variable `stop`:

```
stop = "Harbour Lights"
```

(a) Complete the table to show the value given by each expression. **[5]**

Expression	Value
`stop.length`	
`stop.substring(2, 5)`	
`stop.right(6)`	
`stop.upper`	
`stop.left(1) + str(stop.length)`	

2

Total: 2 marks

In ASCII, the character `"A"` has the code 65 and the character `"a"` has the code 97. The codes for the other letters follow on in alphabetical order.

(a) State the value returned by `ASC("D")` **[1]**

(b) State the value returned by `CHR(101)` **[1]**

3

Total: 4 marks

A warehouse scanner tidies up shelf references that have been typed with spaces in them.

```
01 ref = "K4 7T"
02 clean = ""
03 for i = 0 to ref.length - 1
04     letter = ref.substring(i, 1)
05     if letter != " " then
06         clean = clean + letter
07     endif
08 next i
09 print(clean.lower)
```

(a) Complete the trace table for this program. You may not need to use all the rows. **[4]**

i	letter	clean	Output

4 **Total: 6 marks**

A parts supplier only accepts a product code if **both** of these are true:

- the code is exactly 6 characters long
- the first character of the code is `"X"`.

The program below has **two** logic errors.

```
01 code = input("Enter product code")
02 first = code.substring(1, 1)
03 if code.length > 6 AND first == "X" then
04     print("Code accepted")
05 else
06     print("Code rejected")
07 endif
```

(a) Identify the line number of each logic error and write the corrected line of code. **[4]**

Error 1 Line number ..... Corrected line

Error 2 Line number ..... Corrected line

(b) After the errors are corrected, the program still rejects the code `x48213`, which starts with a lower case x. Describe how the `.upper` method could be used so that this code is accepted. **[2]**

5 **Total: 5 marks**

A bus company gives each route a code made from the town it starts in and a route number. For example, route 14 starting in Kelso has the code `KEL-14`

(a) Write a program that: **[5]**

- asks the user to enter the name of the town and stores it
- asks the user to enter the route number and stores it
- creates the route code by joining the first three characters of the town name in upper case, a hyphen (-) and the route number
- outputs the route code.

You must use either:

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

Total for this worksheet: 22 marks