

Basic string manipulation

Teacher's Notes



Lesson Plan

Length	60 mins	Specification Link	2.3.1/e	
Learning objective	Candidates should be able to: (a) understand and use basic string manipulation			
Time (min)	Activity	Further Notes		
10	<p>Props – length of string, a ruler and pair of scissors.</p> <ul style="list-style-type: none"> Show the students the string and ask them how we would 'find the length of a piece of string'. Measure it using the ruler. Using the scissors, show how the string can be 'sliced' into several parts. Tie the lengths of string together again explaining that the string is being 'concatenated'. <ul style="list-style-type: none"> Now ask the students what is meant by a 'string' in computer programming. Explain that the things that have been done to the actual string can also be done to a computer string. Using a projector, display the Interactive Starter Activity. Ask the students for strings to enter and find their lengths. Ask the students if these are correct. 	A string is any sequence of characters (i.e., letters, numerals, symbols and punctuation marks).		
15	Watch the set of videos pausing to discuss the content.			
5	<p>Discuss the videos to assess learning. Ask questions such as:</p> <ul style="list-style-type: none"> What is string? <ul style="list-style-type: none"> Can you list some ways in which strings can be manipulated? 	<p>A string is any sequence of characters (i.e., letters, numerals, symbols and punctuation marks).</p> <p>Concatenated, find the length, replace characters, find occurrences of particular characters, slice the string into smaller strings.</p>		
15	<p>Pupils to complete Worksheet 1 either on paper or on a computer.</p> <p>Ask individual students for their responses and discuss with the class so that all students have the correct answers.</p>	<p>Answers provided.</p> <p>Ask students with the correct responses to explain to the class how they arrived at their answers.</p>		



Time (min)	Activity	Further Notes
10	The students use Interactive Activity 1 .	Answers Page 1: Word_1 + " " + word_2 Page 2: if len(string) <8 Page 3: ambridge GCSE Compu C Cambridge GCSE ting online
	Extension Challenge/Homework Students to complete and submit Worksheet 2 for homework.	
5	Plenary – Quick revision Ask the students to list all the ways that strings can be manipulated.	

WORKSHEET 1 ANSWERS

1

Explain what is meant by the term ‘string’.

A string is any sequence of characters (i.e., letters, numerals, symbols and punctuation marks).

A character string is often specified by enclosing the characters in single or double quotes.

2

Using the programming language you are studying, write code to carry out the following string manipulations.

(a) Concatenate the following first name and surname, including a space between them.

Save the new string as FullName.

Surname = “Smith”

FirstName = “Alice”

```
FullName = FirstName + " " + Surname
```

**(b) Find the length of the following string:
“Cambridge GCSE Computing”**

```
string = “Cambridge GCSE Computing”
```

```
Length = len(string)
```

**(c) Count how many times the letter ‘C’ appears in the following string.
“Cambridge GCSE Computing”**

```
string = “Cambridge GCSE Computing”
```

```
number = string.count('C')
```

**(d) Change all the letters in the following string to upper case or lower case and save as new strings.
“Cambridge GCSE Computing”**

```
string = “Cambridge GCSE Computing”
```

```
upper_string = string.upper()
```

```
lower_string = string.lower()
```

WORKSHEET 1 ANSWERS



(e) In the following string replace the word 'GCSE' with 'A Level' and save as a new string.

"Cambridge GCSE Computing"

```
string = "Cambridge GCSE Computing"
```

```
new_string = string.replace("GCSE", "A Level")
```

(f) Print the last ten characters of the following string:

"Cambridge GCSE Computing"

```
String = "Cambridge GCSE Computing"
```

```
print string ([21:])
```

OR

```
String = "Cambridge GCSE Computing"
```

```
Print string([-10:])
```

WORKSHEET 2 ANSWERS

- 1 A student is writing a program to ask users for their three favourite foods. The program then displays the following to the user:
Your favourite foods are 'first', 'second', third'.
Write the code that should be used. (6)

```
first = input("Enter your first favourite food") (1)
```

```
second = input("Enter your second favourite food") (1)
```

```
third = input("Enter your third favourite food") (1)
```

```
string = "Your favourite foods are " + first + ", " + second + " and " + third + "." (3)
```

(ensure that spaces are included after the first text and before 'second' and 'third')

```
Print (string)
```