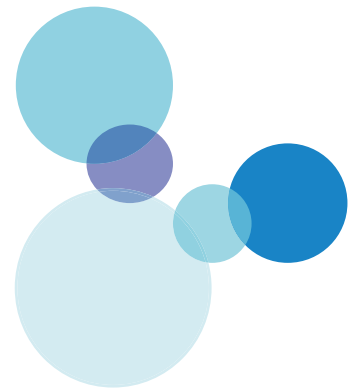


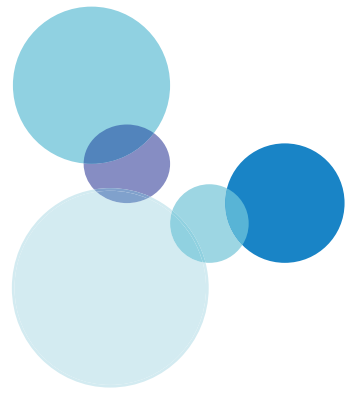
Arrays

Teacher's Notes



Lesson Plan

Length	60 mins	Specification Link	217/o	
Learning objective	Candidates should be able to: (o) use one-dimensional arrays			
Time (min)	Activity	Further Notes		
10	<p>Remind the students that when they are creating a database, they have to identify entities – and then create tables to store multiple instances of those objects e.g. students, subjects, customers. One table stores all of the instances.</p> <p>Using a projector, display the interactive Starter Activity.</p> <p>Explain that if we want to input and store multiple instances of an object in a computer program it would quickly become unwieldy and confusing if we had to create a separate variable for each one.</p>			
10	Watch the video, pausing to discuss the content.			
5	<p>Discuss the video to assess learning. Ask questions such as:</p> <ul style="list-style-type: none"> • What is meant by an array? • Why are arrays used? 	<p>Answers:</p> <p>An array is a data structure that contains a group of linked elements which are usually of the same data type.</p> <p>They allow the storing of multiple pieces of data in one variable.</p>		
15	<p>Pupils to complete Worksheet 1 either on paper or on a computer. They may need access to the Internet to research some of the questions.</p> <p>Ask individual students for their answers and discuss with the class so that all students will 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>		
10	The students use interactive Activity 1 .			
	<p>Extension Challenge/Homework</p> <p>Students to complete and submit Worksheet 2 for homework.</p>			
10	<p>Plenary</p> <p>Assessment of learning outcomes:</p> <p>Revisit the questions asked after viewing the video to assess the learning outcomes of the lesson.</p>			



WORKSHEET 1 ANSWERS

1 Explain what is meant by an array.

An array is a data structure that contains a group of linked elements which are usually of the same data type.

They allow the storing of multiple pieces of data in one variable.

2 The following table shows the elements in an array called Cars.

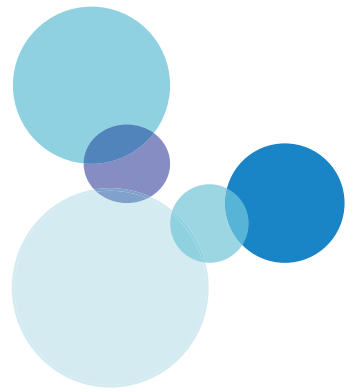
Cars[0]	Renault
Cars[1]	Ford
Cars[2]	Hyundai
Cars[3]	Vauxhall
Cars[4]	Audi
Cars[5]	BMW
Cars[6]	Toyota
Cars[7]	Citroen
Cars[8]	Jaguar

(a) What is the value of Cars[2]?

Hyundai

(b) Write an algorithm that would search the array to warn a user that the car type had already been entered.

```
INPUT carType
i = 0
WHILE Found = ""
  IF Cars[i] = carType THEN
    PRINT "Already entered"
    FOUND = "yes"
    PRINT "Already entered"
  END IF
  i = i + 1
```



WORKSHEET 2 ANSWERS

1 (a) Explain what is meant by an array. (2)

An array is a data structure that contains a group of linked elements (1) which are usually of the same data type. (1)

(b) Explain why arrays are used when writing computer programs. (2)

(Two marks from the following)

They allow the storing of multiple pieces of data (1) in one variable. (1)

They prevent the need for using multiple variables. (1)