

Iteration, basic programming constructs and loops

Worksheet 1

1 A programmer is creating a computer game in which the user has to roll a dice three times. They have written the following code.

The routine for rolling the dice is written as a sequence below:

```
BEGIN RollTheDice
DiceResult(1) = Random Number between 1 and 6
DiceResult(2) = Random Number between 1 and 6
DiceResult(3) = Random Number between 1 and 6
END
```

Rewrite this routine so that it uses iteration. You may use a diagram. (4)

2 A programmer has created an algorithm to reset the contents of an array with ten items back to zero. The algorithm below contains a logic error.

```
I = 1
REPEAT
Array(i) = 0
I = i + 1
UNTIL i = 10
```

(a) State what is meant by a logic error. (1)

(b) State why the algorithm above contains a logic error. (2)
