**Flowcharts**

Computer systems are often very complex, and formed from several smaller subsystems. Diagrams are often used as a way of planning and explaining systems, or as a way of troubleshooting issues by highlighting the subsystems where an issue may occur.

**Activity 1:** Correct the mistakes. Look at the ‘Meaning’ column carefully and move the words around to match the symbols.

|  |  |
| --- | --- |
| **Symbol** | **Meaning** |
|  | **Process:**  An action that needs to be taken. |
|  | **Terminator:**  Represents either the start or the end of the process. |
|  | **Decision:**  Different actions taken depending on the answer to a question. |
|  | **Input/Output:**  Shows data from outside the system, and can display data from inside the system. |
|  | **Connector:**  Shows the direction to move between the components of the flow chart. |

**Activity 2:** Create an algorithm that checks whether a given name is on a list. Use the staged process outlined in the PowerPoint to help with this.

Start

Input name start

Check list for name

If name is on list output “name is on list”;

ELSE output “name is not on list” Input name

STOP

Check list

For name

N

Name on list?

Output

“name is not on list”

Y

Output

“name is on list”

stop

**Activity 3:** Create a flow chart for an algorithm that gets a passcode from a user, checks each digit of   
the passcode to see whether it is correct, and either unlocks the device if the passcode is correct or outputs a message and asks for the passcode again if it is incorrect. (6 marks)

START

INPUT passcode

Separate each digit into its own variable such as digit1, digit2 etc.

Check each digit if they are correct and are in the right order

If correct output “correct”

ELSE output “incorrect”

STOP

N

Y

START

INPUT passcode

Separate each digit into its own

variable such as digit1, digit2 etc.

Check if digit is correct

And in the right order

Pin correct ? output “incorrect”

output “correct”

STOP