9 **(a)** A stack has been implemented using pseudocode to store a maximum of 100 string items using the global variables in the following table:

Identifier	Data type	Description	Initialisation value
`Base`	`INTEGER`	pointer for the bottom of the stack	`0`
`Top`	`INTEGER`	pointer for the top of the stack	`-1`
`StackArray`	`STRING`	1D array to implement the stack	`[0:99]`
`Max`	`INTEGER`	maximum number of items in the stack	`100`

The value of `Top` is incremented each time a data item is added to the stack and decremented every time a data item is removed.

(i) Complete the **pseudocode** for the function to remove a data item from the stack.

```
FUNCTION Pop() .....
   DECLARE DataItem : STRING
   DataItem ← ""

   IF ..... THEN

      DataItem ← .....

      Top ← .....
   ELSE
      DataItem ← "You cannot remove data; the stack is empty"
   ENDIF

   .....
ENDFUNCTION
```

[5]

(ii) Write the **pseudocode** to output the data item removed from the stack with an appropriate message.

.....

..... [1]

(b) A stack is used to implement recursion.

State the **three** essential features of recursion.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

10 Explain what is meant by **exception handling**.
Include an example of a possible cause of an exception in your answer.

Explanation .....

.....

.....

.....

Example .....

[3]