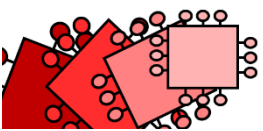


# Pseudocode

## Cheat Sheet

Concept	Example Pseudocode	Notes
Outputting to screen	<pre>PRINT("hello")</pre>	PRINT(string)
Taking input from user	<pre>name = INPUT("Please enter your name")</pre>	<i>Variable</i> = INPUT( <i>prompt to user</i> )
Iteration – Count controlled	<pre>FOR I = 0 to 7   PRINT("Hello") NEXT i</pre>	This would print hello 8 times (0-7 inclusive).
Iteration – Condition controlled	<pre>WHILE answer != "computer"   answer = INPUT("What is the password?") ENDWHILE</pre>	While Loop
	<pre>DO   Answer = INPUT("What is the password?") UNTIL answer == "computer"</pre>	Do Until Loop
Selection	<pre>IF entry == "a" THEN   PRINT("You selected A") ELSEIF entry == "b" then   PRINT("You selected B") ELSE   PRINT("Unrecognised selection") ENDIF</pre>	IF / ELSE selection
String handling	<pre>stringname.LENGTH stringname.SUBSTRING(startingPosition, numberOfCharacters)</pre>	To get the length of a string To get a substring
Arrays / Lists	<pre>ARRAY names[5] names[0] = "Ahmad" names[1] = "Ben" names[2] = "Catherine" names[3] = "Dana" names[4] = "Elijah" PRINT(names[3])</pre>	Arrays should be 0 based and declared with the keyword array.



# Pseudocode

## Cheat Sheet

Three examples of writing pseudocode for the same algorithm: Dispensing cash at a cash point machine.

### VERSION 1

1. Input card number
2. Repeat
  - a. Input pin
  - b. Check if pin is correct
    - i. If it's not output "Wrong pin"
3. Until the pin is correct
4. Input amount
5. If there are enough funds
  - a. Dispense cash
  - b. Update customer's balance
6. If there are not enough funds
  - a. Output "Sorry, insufficient funds"

*This is too much like structured English.*

*It would receive little to no credit in an exam.*

### VERSION 2

```
BEGIN
  INPUT CardNumber
  REPEAT
    INPUT PIN
    IF PIN is wrong for this CardNumber THEN
      OUTPUT "Wrong PIN"
    END IF
  UNTIL PIN is correct
  INPUT Amount
  IF there are enough funds THEN
    Dispense Cash
    Update customer's balance
  ELSE
    OUTPUT "Sorry, insufficient funds"
  END IF
END
```

*This version is good.*

*It uses key words, correct indentation and the logic of the problem can be clearly seen.*

*This would get decent marks in an exam.*

### VERSION 3

```
BEGIN
  CardNumber=INPUT("Please enter Card Number")
  DO
    Pin=INPUT("Please enter Pin")
    IF Pin != CorrectPin
      PRINT("Wrong PIN")
    END IF
  UNTIL Pin==CorrectPin
  Amount=INPUT("How much money would you like?")
  IF Amount <= CurrentBalance THEN
    DispenseCash(Amount)
    CurrentBalance = CurrentBalance - Amount
  ELSE
    PRINT("Sorry, insufficient funds")
  END IF
END
```

*This is the best version.*

*Mathematical comparison operators used.*

*Variable assignment shown.*

*Complete understanding of the problem to be coded.*

*This would get full marks in an exam.*

