**Worksheet 4: Writing algorithms**

**Task 1**

Here is some sample pseudocode. Use this as a guide to write pseudocode algorithms for the descriptions in the questions below.

**input PIN**

**if *correct PIN entered* then**

**unlock phone**

**else**

**print "Try again"**

**endif**

1. Read in a student’s mark and print ‘pass’ or ‘fail’ depending on their mark. The pass mark is 40 or more.

MARK= int (input ("please enter your mark: "))

IF MARK >= 40 THEN

OUTPUT ("pass")

ELSE

OUTPUT ("fail")

ENDIF

2. To print the correct hat size based on the circumference of your head:

* Less than 57cm = Small
* Greater than 60cm = Large
* Anything in between = Medium

hat\_c = int (input ("please enter your hat size: "))

IF hat\_c < 57 THEN

OUTPUT ("Small")

ELIF hat\_c >57 AND hat\_c <60 THEN

OUTPUT("Medium")

ELIF hat\_c >60:

OUTPUT("Large")

3. For a program that will:

* Read in the price of an item and the quantity purchased.
* Calculate the total spend.
* If the total spend is £50 or more, the customer will be given a discount of 10%. Calculate the discount if due.
* If applicable, display a message saying they qualify for a discount and the discount amount.
* Output the amount to pay, (deduct any discount due if applicable to the total spend)

Here is an example where discount is applicable

Item Price: £6, quantity purchased: 10

Total Spend: £60

Discount: £6 (10% of £60)

Amount to pay: £54

ITEMCOST= int (input ("How much does the item cost? "))

QUANTITY = int (input ("How many do you want to buy? "))

TOTAL = ITEMCOST \* QUANTITY

OUTPUT ("your total cost is ", total)

IF TOTAL > 50 THEN

DISCOUNT = TOTAL \* 0.9

OUTPUT ("your total was ", TOTAL)

OUTPUT ("your total with discount is ", DISCOUNT)