Task 6

Check whether the given number is an armstong number

- Here num=the number we wanted to check
    - i=number of digits in the given number
- rem= remainder of num when divided by 10
- sum=sum of digits raised to the power of number of digits
- temp and h are temporary variables we assigned for num

Algorithm:

Step 1: Start
Step 2: Declare num,i,temp,rem,sum,h
Step 4: Enter num
Step 5: Set i=0 and temp=num
Step 6: While temp is not 0 calculate temp=temp/10 and increment i (count) by 1 for each loop
Step 7: Display i
Step 8: Set sum=0 and h=num
Step 9: For num decreasing num count by 1 Compute rem=num%10
sum=sum+(rem^i)
num=num/10
Then Assign num=num+1
Repeat loop until condition fails
Step 10 : If sum == h
It is an armstrong number
Step 6: Else it is not an armstrong number
Step 7: Terminate

Pseudocode :

```
BEGIN
    DECLARE Integers num,i,temp,rem,sum,h
    READ num
    INITIALISE i=0
    ASSIGN temp=num
    WHILE temp!=0
        ASSIGN i=i+1
        COMPUTE temp=temp/10
    ENDWHILE
    PRINT i
    INITIALISE sum=0
    ASSIGN h=num
```

```
    FOR num decreasing from num to 1
        COMPUTE rem=num%10
        COMPUTE sum=sum+(rem^i)
        COMPUTE num=num/10
        ASSIGN num=num+1
    END FOR
    PRINT sum
    IF h==sum then
        PRINT "It is an armstrong number"
    ELSE
        PRINT "It is not an armstrong number"
    ENDIF
END
```