Programming revision exercise 1

Write a python function which returns a random number

Write a second function to compare two numbers and return True or False if they are the same or different

Write a program which uses these two functions. The program should:

- generate a random number using the first function above
- ask the user to guess the number and use the second function to check it
- keep asking the user to guess until the user guesses the correct number

Draw a flowchart of your program. You can draw the two functions requested above as separate flow charts.

Write a unit test and draw a test table to test the function for comparing two numbers.

Programming revision exercise 2

Given a string entered by the user. Write a program to check if the string is symmetrical and a palindrome or not.

A string is symmetrical if both the halves of the string are the same and a string is a palindrome if one half of the string is the reverse of the other half or if a string appears the same when read forward or backward.

Example:

NoonNoon is symmetrical and a palindrome

Rowrow is symmetrical but not a palindrome

Racecar is not symmetrical but is a palindrome

Your program must have separate functions to test for both symmetry and palindromes. The user should be able to enter as many words to test as they like until they enter -1.

Draw a flowchart for your code and write a unit test and draw a test table for the symmetry and palindrome functions.

Programming revision exercise 3

```
def processNumber(x):
    z = 72
    return x + z

y = 3

result = processNumber(y)

print(result)
```

Identify the following parts in the code above by writing the relevant code opposite each word:

Function header	
Function call	
Arguments	
Parameters	
Function body	
Main program	