**Raspberry Pi Session – 11th May**

**What we are going to do today**

Continue working in Python and will develop 2 programs.

* Generate a random number, and try and guess the number
* Input a number and check if it is a prime number or not.

**Notes for Random Number program**

*Import random* library

Use the *random.range(1,10)* function

Create a loop to allow user to provide multiple guesses

Accept number from user

Check if guess = random number

Check if guess is grater or less than random number and print a message

Keep track of number of guesses

**Further suggestions**

Perform validation checks on the input number to ensure

1. input is a integer number
2. it is less than 10 (or what ever max random number value you have set)

Look at random.seed function – what is it used for and include this in your program

Use the program to create a game, based on guessing the random number. Some thoughts on this are:

The faster you guess the random number the higher your score

Allow the user to keep playing until they enter QUIT

**Notes Prime Numbers program**

Accept number from user

Call *IsPrime* function to determine if number is a prime or not

Print the result

Function IsPrime should include the following:

Accept an number as an argument

Function will return either True or False depending on whether the number is prime or not.

Create a loop to divide number by all values from 2 to number -1

If number id divisible, without a remainder (ie. 25 /5) then it is not a prime

**Further suggestions**

Create a new function to display all prime numbers up to a value input by user.

When determining if a number is prime or not, dividing by all numbers from 2 to number -1 is not very efficient. Look at improving this by reducing the number of calculations/checks that are needed.

If you wish to continue work on the above program before next Saturday’s session, you can download Python for Windows, see link below.

http://www.python.org/download/releases/2.7.4/