SPIS Monday 10:15am Lecture, Week 2

Test Driven development

- 1. Write test code so that test fails
- 2. Write code to that test passes
- 3. Refactor code

Refactor: Rearrange, cleanup, move working code to where it best belongs.

Recursion: A function calling itself

1. Perform task once
2. Call method to perform the rest of the task
    - the method called is the same one
3. Need a terminating condition

Consider: a loop OR recursion (NOT OF)

Code examples:

```python
def write_loop (string):

    index = 0
    while index < len (string):
        print (string[index], end="")
        index += 1

def write_forwards (string, index=0):

    # write one letter
    print (string[index],end="")

    # delegate to print the rest of the string
    if index < len (string) - 1:
        write_forwards (string, index + 1)

def write_backwards (string, index=0):

    # delegate to print the rest of the string
    if index < len (string) - 1:
        write_backwards (string, index + 1)

    # write one letter
    print (string[index],end="")

write_loop ("Hello World")
print ()
write_forwards ("Hello World")
print ()
write_backwards ("Hello World")
print ()
```

UNIX and Linux

- Terminal Window (bash shell):
  o Interface between user and the computer
  o User makes requests for computer to perform
  o Command line interpreter