CSC4100/5100 – In Class Exercise

1) **Get input for n integer numbers, print sum of the numbers. Use memory pointers with malloc and free commands.**

   Hint :

   Memory allocation : ptr = (int*) malloc(n * sizeof(int));

   Sum : sum += *(ptr + i);

   Free: free(ptr)

scanf("%d", ptr + i);

2) **Run multiple instances of above program. (hint ./sum ./sum). Explain how operations work?**

```
coursework@coursework:~/Desktop/c_practice$ ./a
Input the number of integers: 10
1
1
1
1
1
1
1
1
1
1
The sum is: 10
coursework@coursework:~/Desktop/c_practice$ ./a & ./a
[3] 7517
Input the number of integers: Input the number of integers: 2
1
1
The sum is: 2

[3]+  Stopped                 ./a
```

3) **Compare any two operating systems.**

MAC OS	**WINDOWS**
Apple ecosystem and integrating it with each device allows for efficiency	Compatible with many different devices
Less prone to viruses with a Unix based architecture	More prone to viruses without additional software to defend

Simple design to provide an aesthetic experience	More customization to allow each user to maximize their efficiency their way

4) Define virtualization and concurrency.

- Virtualization – is the process of creating a virtual version of something. Like storage devices, computer platforms and network resources. It allows one machine to run multiple different environments.
- Concurrency – The ability to perform multiple tasks at once. Overall allows for faster performance and response times. It is the process of using multiple CPU cores.