Practical 5 and 6

Natya Vidhan Biswas

B.Sc. (H) C.S. 25771

5. Write a program to report behaviour of Linux kernel including kernel version, CPU type and CPU information.

```c
#include <stdio.h>
#include <stdlib.h>

int main() {
    printf("Kernel Version:\n");
    system("uname -r");

    printf("\nCPU Information:\n");
    system("lscpu | grep 'Model name\\|Architecture\\|CPU(s)'");  // prints CPU details

    return 0;
}
```

```
Desktop $ ./a.out
Kernel Version:
6.6.87.2-microsoft-standard-WSL2

CPU Information:
Architecture:                    x86_64
CPU(s):                          16
On-line CPU(s) list:             0-15
Model name:                      AMD Ryzen 7 2700X Eight-Core Processor
NUMA node0 CPU(s):               0-15
```

6. Write a program to report behaviour of Linux kernel including information on configured memory, amount of free and used memory. (Memory information)

```c
#include <stdio.h>
#include <stdlib.h>

int main() {
    printf("Memory Information:\n");
    system("free -h");
    return 0;
}
```

```
Desktop $ ./a.out
Memory Information:
              total        used        free      shared  buff/cache   available
Mem:           7.7Gi       569Mi       7.0Gi       4.0Mi       288Mi       7.2Gi
Swap:          2.0Gi          0B       2.0Gi
Desktop $
```