

Assignment - 2

Answers can be viewed by cloning the following gist

```
git clone https://gist.github.com/sahitpj/7157c7a37cd95238ce38a0a8d89eaf2b
```

Question 1

The following question has been done in an Jupyter Notebook, however individual files are located in the [gist](#) too

In order to test simply run the test.py file

```
python test.py
```

Question 2

Given the following information

- 6 bit virtual space
- 16bytes pages/ frames, this implies the offset is 4 bits and the rest 2bits are for converting from VPN to PFN

And we have the following mappings

- (0,9)
- (1,1)
- (2,6)
- (3,8)

a) 22 which is 010110

VPN = 1 this maps to PFN = 1 offset = 0110 physical address = 00010110

b) 62 which is 111110 VPN = 3 this maps to PFN = 8 offset = 1110 physical address = 10001110

c) virtual address 109 does not exist in a 6bit virtual space, as it exceeds it, results in error

Question 3

Memory usage of the CPU increases as more and more memory is touched. This then halts, when the program is halted, as expected. For large values of memory however, after a certain point the memory is freed up

The c program for this question is in the [gist](#) vmstats mac version can be run using the vmstat.sh file in the gist, run by simply typing

```
bash vmstat.sh
```