

Experiment: 6

Write a c program that takes, as a command line argument, the number of megabytes of memory it will use and during execution it should consume that much memory. Observe memory usage during program execution using free command.

➔ C program

```
khushi@khushi-VirtualBox: ~  
GNU nano 6.2 script6.c  
#include<stdio.h>  
#include<stdlib.h>  
#include<time.h>  
#include<unistd.h>  
  
int main(int argc, char* argv[])  
{  
    printf("Current Process ID = %d\n",getpid());  
    long long int size = (((long long int)atoi(argv[1]))*1024*1024); //in bytes  
    int* buffer = (int*)malloc(size);  
  
    //run the while loop for given amount of time.  
    time_t endwait, seconds, start;  
    seconds=atoi(argv[2]);  
    start=time(NULL);  
    endwait = start + seconds;  
  
    while(start<endwait)  
    {  
        printf(".");  
        fflush(stdout);  
        long long int i;  
        for(i=0; i<size/sizeof(int); i++)  
        {  
            buffer[i] = i;  
        }  
        start = time(NULL);  
    }  
    printf("(done)\n");  
    return 0;  
}
```

```
khushi@khushi-VirtualBox: ~  
khushi@khushi-VirtualBox:~$ nano script6.c  
khushi@khushi-VirtualBox:~$ ./a.out 1000 20  
Current Process ID = 2985  
.....(done)  
khushi@khushi-VirtualBox:~$
```

```
khushi@khushi-VirtualBox:~$ free -h  
              total        used         free      shared  buff/cache   available  
Mem:          1.9Gi         745Mi        1.0Gi         14Mi        212Mi        1.0Gi  
Swap:          3.0Gi         152Mi        2.8Gi  
khushi@khushi-VirtualBox:~$
```