# Experiment 6:

Write a C program that takes as a command line argument , the no. of megabytes of memory it will use and during execution it should consume that much memory . Observe memory during program execution using free

C program:

```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);
        for(long long int i=0; i<size/sizeof(int); i++){
            buffer[i]=i;
        }
        start=time(NULL);
    }
    printf("(done)\n");
    return 0;
}
```

Output:

```
haripriya@haripriya-VirtualBox:~$ nano exp6.c
haripriya@haripriya-VirtualBox:~$ gcc exp6.c
haripriya@haripriya-VirtualBox:~$ ./a.out
CURRENT PROCESS ID : 4805
Segmentation fault (core dumped)
```

Memory during program execution:-

```
haripriya@haripriya-VirtualBox:~$ free -m
               total        used        free      shared  buff/cache   available
Mem:            1513         843          64          22         604         508
Swap:           6535          83        6452
haripriya@haripriya-VirtualBox:~$ free -m
               total        used        free      shared  buff/cache   available
Mem:            1513         843          64          22         605         508
Swap:           6535          83        6452
haripriya@haripriya-VirtualBox:~$
```