Experiment6:

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

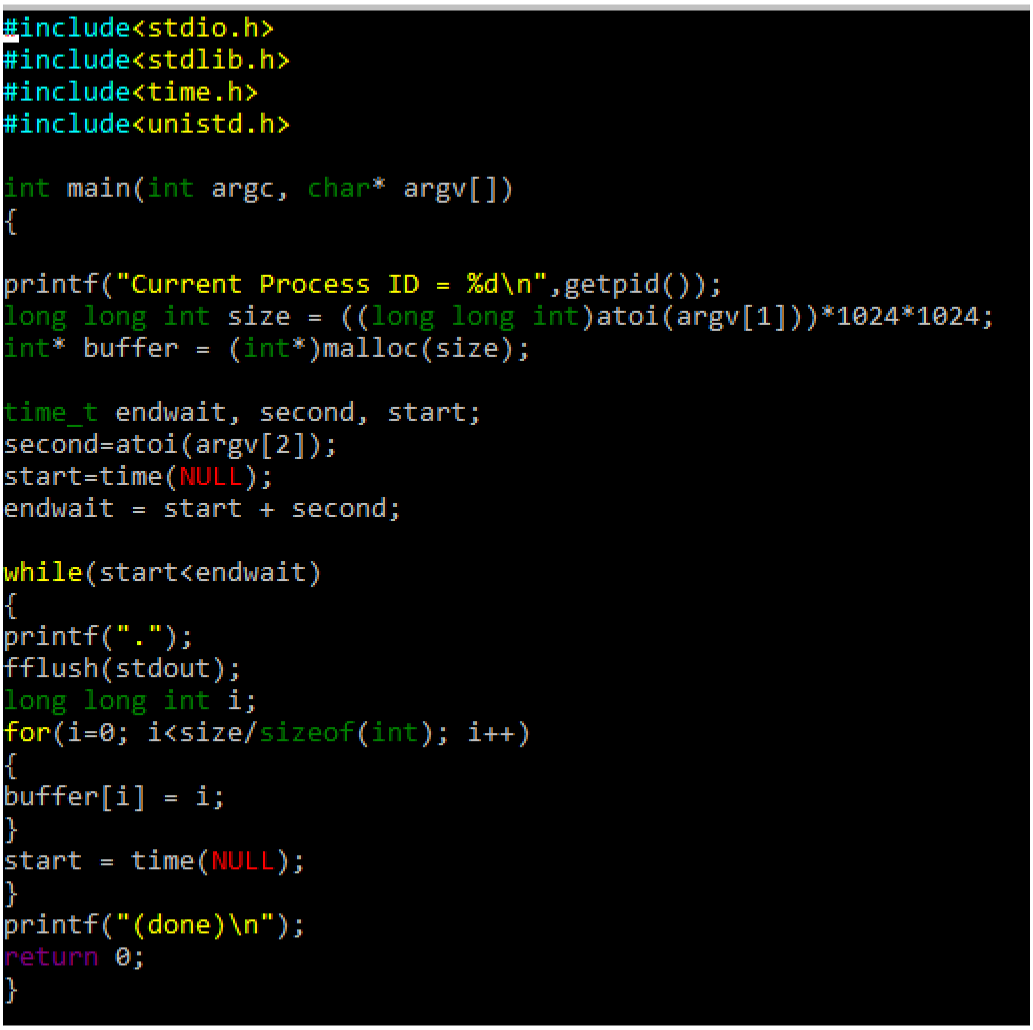
Command: nano filename.c

Program:

```
#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;
int* buffer = (int*)malloc(size);
time_t endwait, second, start;
second=atoi(argv[2]);
start=time(NULL);
endwait = start + second;
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;
}
```

Terminal:

```
gcc filename.c
./a.out
```



```c
#include<stdio.h>
#include<stdlib.h>
#include<time.h>
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int main(int argc, char* argv[])
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printf("Current Process ID = %d\n",getpid());
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int* buffer = (int*)malloc(size);

time_t endwait, second, start;
second=atoi(argv[2]);
start=time(NULL);
endwait = start + second;

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;
}
```

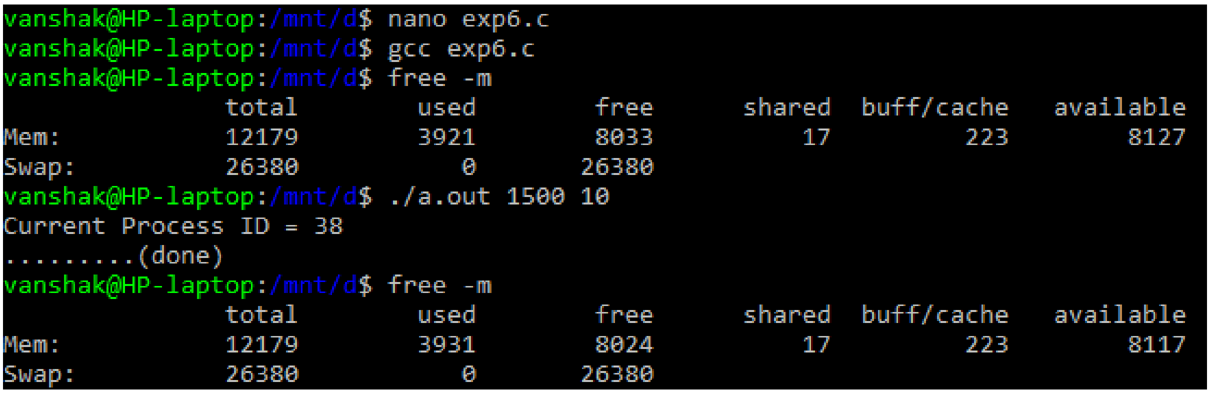

```
vanshak@HP-laptop:/mnt/d$ nano exp6.c
vanshak@HP-laptop:/mnt/d$ gcc exp6.c
vanshak@HP-laptop:/mnt/d$ free -m
              total        used        free      shared  buff/cache   available
Mem:          12179        3921        8033          17         223        8127
Swap:         26380           0       26380
vanshak@HP-laptop:/mnt/d$ ./a.out 1500 10
Current Process ID = 38
.........(done)
vanshak@HP-laptop:/mnt/d$ free -m
              total        used        free      shared  buff/cache   available
Mem:          12179        3931        8024          17         223        8117
Swap:         26380           0       26380
```