



(globals)

virtual memory.cpp

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <time.h>
4
5 #define VIRTUAL_MEMORY_SIZE 1024
6 #define PAGE_SIZE 4
7 #define PHYSICAL_MEMORY_SIZE 16
8
9 int virtualMemory[VIRTUAL_MEMORY_SIZE];
10 int physicalMemory[PHYSICAL_MEMORY_SIZE];
11
12 void initializeMemory() {
13     for (int i = 0; i < VIRTUAL_MEMORY_SIZE; ++i) {
14         virtualMemory[i] = rand() % 100;
15     }
16
17     for (int i = 0; i < PHYSICAL_MEMORY_SIZE; ++i) {
18         physicalMemory[i] = -1;
19     }
20 }
21
22 int getPage(int pageNumber) {
23     if (pageNumber < 0 || pageNumber >= VIRTUAL_MEMORY_SIZE / PAGE_SIZE) {
24         printf("Invalid page number\n");
25         return -1;
26     }
27
28     return pageNumber * PAGE_SIZE;
29 }
30
31 int readMemory(int address) {
32     int pageNumber = address / PAGE_SIZE;
33     int offset = address % PAGE_SIZE;
34 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

```
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- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\palah\OneDrive\Documents\virtual memory.exe
- Output Size: 130.8037109375 KiB
- Compilation Time: 0.27s
```

```
C:\Users\palah\OneDrive\Doc x + v
Read value at address 941: 0
Read value at address 684: 0
Read value at address 555: 0
Read value at address 871: 0
Read value at address 245: 0
Read value at address 824: 0
Read value at address 919: 0
Read value at address 306: 0
Read value at address 939: 0
Page 3 loaded into frame 1
Read value at address 23: 0
Read value at address 862: 0
Read value at address 278: 0
Read value at address 819: 0
Read value at address 320: 0
Read value at address 859: 0
Read value at address 1011: 38812
Read value at address 608: 1
Read value at address 942: 0
Read value at address 627: 0
```

```
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Process exited after 0.0587 seconds with return value 0
Press any key to continue . . . |
```