

ASHNA SHAIKH

[DT-22019]

OPERATING SYSTEM LAB [CT-353]

LAB 011

CODE:

```
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      int b[20], l[20], n, i, pa, s, a, d;
6
7      cout << "\nProgram for Segmentation";
8      cout << "\nEnter the number of segments: ";
9      cin >> n;
10
11     cout << "\nEnter the base address and limit register for each segment:\n";
12     for (i = 0; i < n; i++) {
13         cout << "Segment " << i << " base: ";
14         cin >> b[i];
15         cout << "Segment " << i << " limit: ";
16         cin >> l[i];
17     }
18
19     cout << "\nEnter the segment number: ";
20     cin >> s;
21
22     cout << "Enter the offset (logical address within segment): ";
23     cin >> d;
24
25     if (s < n) {
26         if (d < l[s]) {
27             pa = b[s] + d;
28             a = b[s];
29             cout << "\n\tSegment\tBaseAddr\tPhysicalAddr\n";
30             cout << "\t" << s << "\t" << a << "\t\t" << pa << "\n";
31         } else {
32             cout << "\nOffset exceeds segment limit.\n";
33         }
34     } else {
35         cout << "\nInvalid segment number.\n";
36     }
37
38     return 0;
39 }
```

OUTPUT:

```
C:\Users\marya\Downloads\O x + v
Program for Segmentation
Enter the number of segments: 2

Enter the base address and limit register for each segment:
Segment 0 base: 1000
Segment 0 limit: 500
Segment 1 base: 2000
Segment 1 limit: 300

Enter the segment number: 1
Enter the offset (logical address within segment): 150

      Segment BaseAddr      PhysicalAddr
      1         2000         2150

-----
Process exited after 127.7 seconds with return value 0
Press any key to continue . . . |
```

```
Program for Segmentation
Enter the number of segments: 3

Enter the base address and limit register for each segment:
Segment 0 base: 500
Segment 0 limit: 120
Segment 1 base: 1000
Segment 1 limit: 300
Segment 2 base: 2000
Segment 2 limit: 200

Enter the segment number: 2
Enter the offset (logical address within segment): 250

Offset exceeds segment limit.

-----
Process exited after 30.2 seconds with return value 0
Press any key to continue . . . |
```