LAB 11

Course: CT-353-Operating Systems

Department: BCIT (Specialisation in Data Science)

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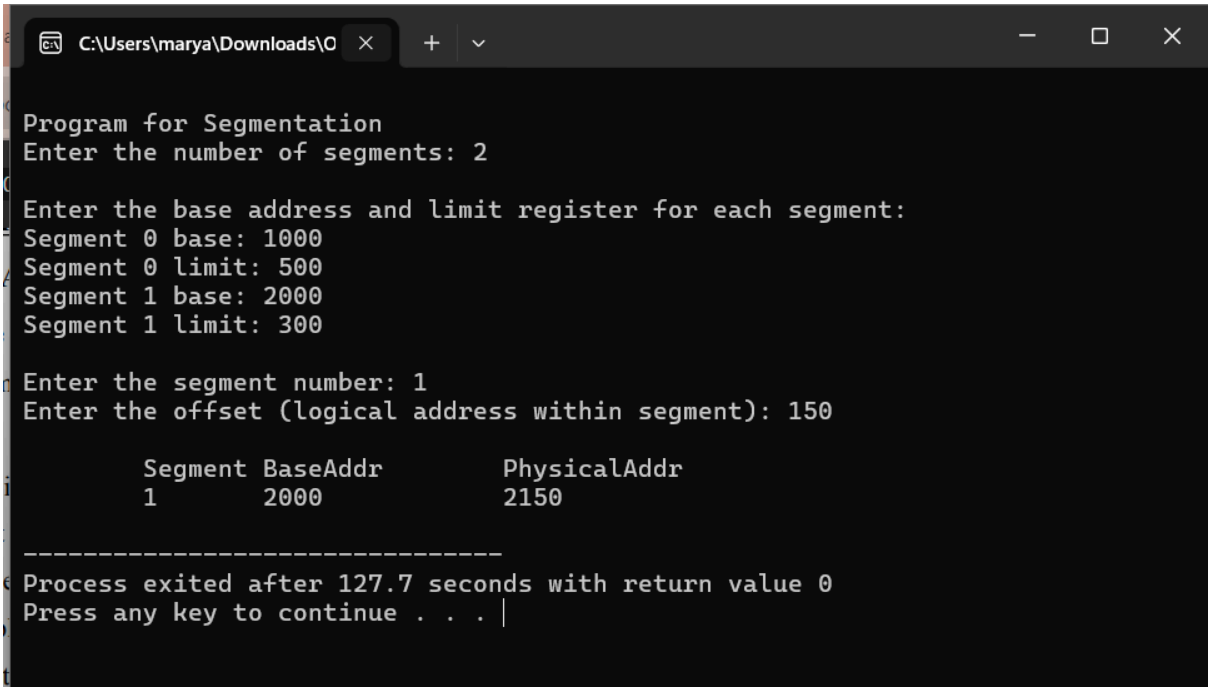
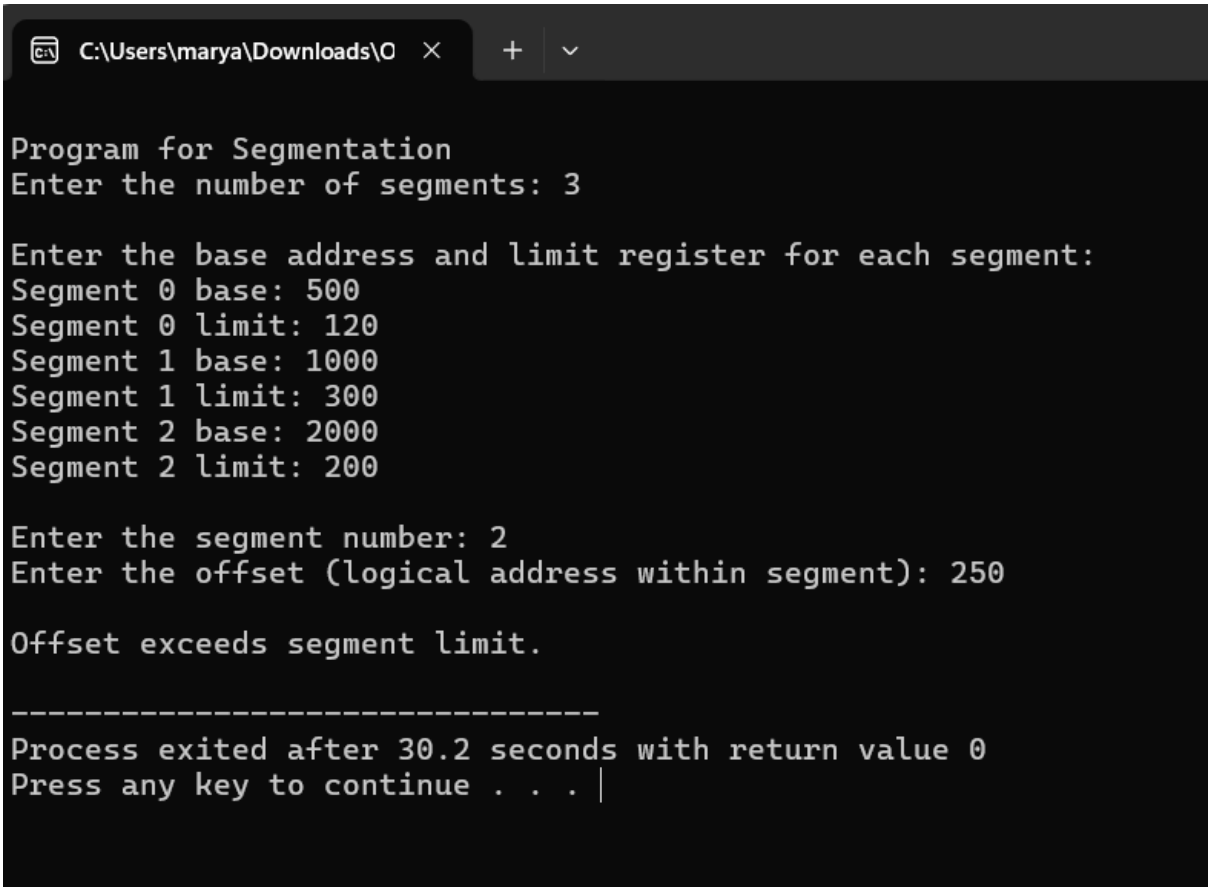
CODE:

[*] OS LAB 10.cpp OS LAB 11.cpp

```cpp
#include <iostream>
using namespace std;

int main() {
    int b[20], l[20], n, i, pa, s, a, d;

    cout << "\nProgram for Segmentation";
    cout << "\nEnter the number of segments: ";
    cin >> n;

    cout << "\nEnter the base address and limit register for each segment:\n";
    for (i = 0; i < n; i++) {
        cout << "Segment " << i << " base: ";
        cin >> b[i];
        cout << "Segment " << i << " limit: ";
        cin >> l[i];
    }

    cout << "\nEnter the segment number: ";
    cin >> s;

    cout << "Enter the offset (logical address within segment): ";
    cin >> d;

    if (s < n) {
        if (d < l[s]) {
            pa = b[s] + d;
            a = b[s];
            cout << "\n\tSegment\tBaseAddr\tPhysicalAddr\n";
            cout << "\t" << s << "\t" << a << "\t\t" << pa << "\n";
        } else {
            cout << "\nOffset exceeds segment limit.\n";
        }
    } else {
        cout << "\nInvalid segment number.\n";
    }

    return 0;
}
```

OUTPUT:


C:\Users\marya\Downloads\O
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 . . .


C:\Users\marya\Downloads\O
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 . . .