Course Name: Operating systems

LAB: 11

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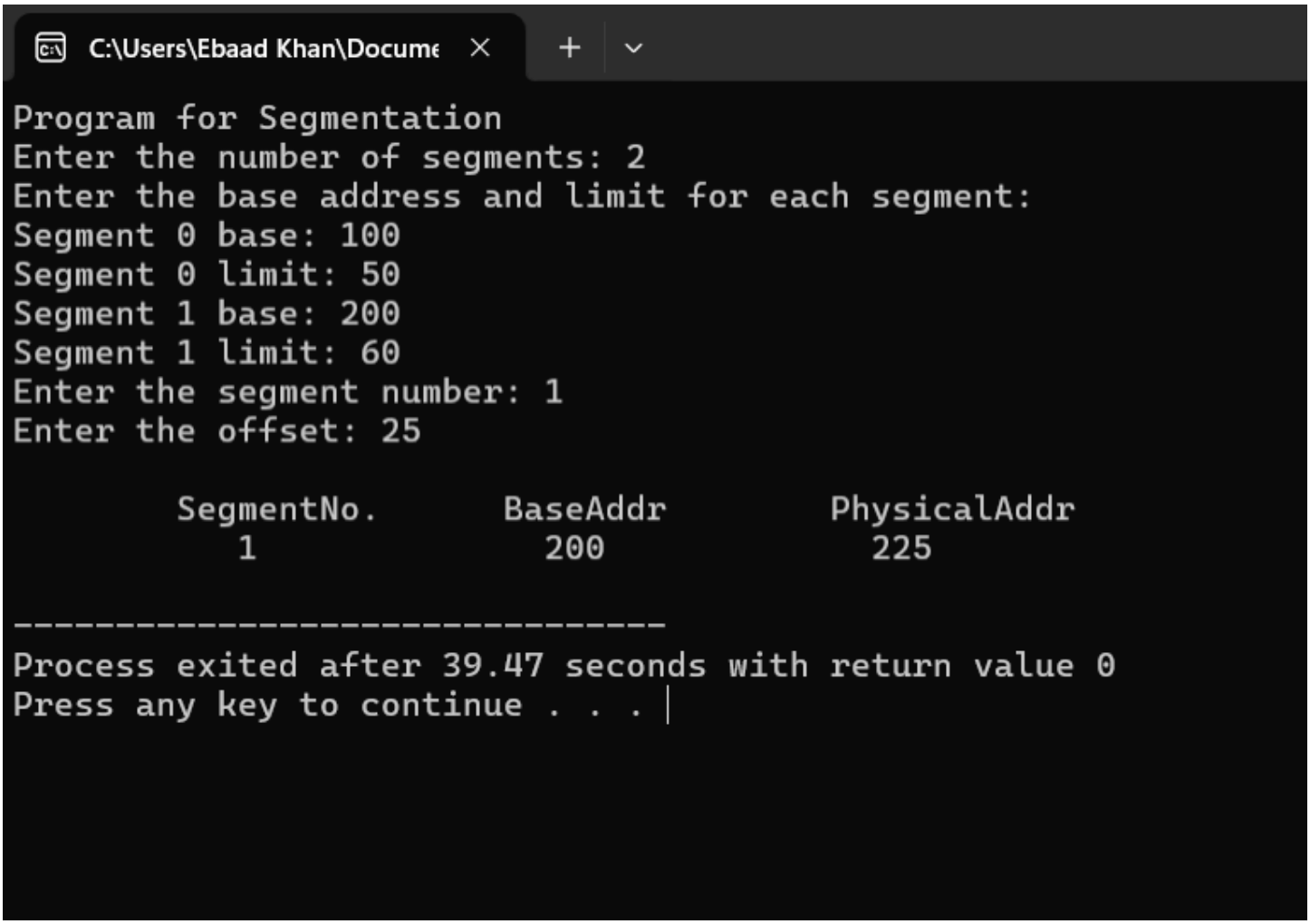
Roll: DT-22045

PROGRAM:

```
#include <stdio.h>

#include <stdlib.h>


int main() {

   int base[20], limit[20], n, i, segment, offset, physicalAddr;


   printf("Program for Segmentation\n");


   printf("Enter the number of segments: ");

   scanf("%d", &n);


   printf("Enter the base address and limit for each segment:\n");

   for (i = 0; i < n; i++) {

      printf("Segment %d base: ", i);

      scanf("%d", &base[i]);

      printf("Segment %d limit: ", i);

      scanf("%d", &limit[i]);

   }
```

```
    printf("Enter the segment number: ");
    scanf("%d", &segment);

    if (segment < 0 || segment >= n) {
        printf("Invalid segment number.\n");
        return 0;
    }

    printf("Enter the offset: ");
    scanf("%d", &offset);

    if (offset < limit[segment]) {
        physicalAddr = base[segment] + offset;
        printf("\n\tSegmentNo.\tBaseAddr\tPhysicalAddr\n");
        printf("\t   %d\t\t  %d\t\t  %d\n", segment, base[segment], physicalAddr);
    } else {
        printf("Offset exceeds the segment limit.\n");
    }

    return 0;
}
```

Output:


C:\Users\Ebaad Khan\Docume
Program for Segmentation
Enter the number of segments: 2
Enter the base address and limit for each segment:
Segment 0 base: 100
Segment 0 limit: 50
Segment 1 base: 200
Segment 1 limit: 60
Enter the segment number: 1
Enter the offset: 25
SegmentNo. BaseAddr PhysicalAddr
1 200 225
Process exited after 39.47 seconds with return value 0
Press any key to continue . . .