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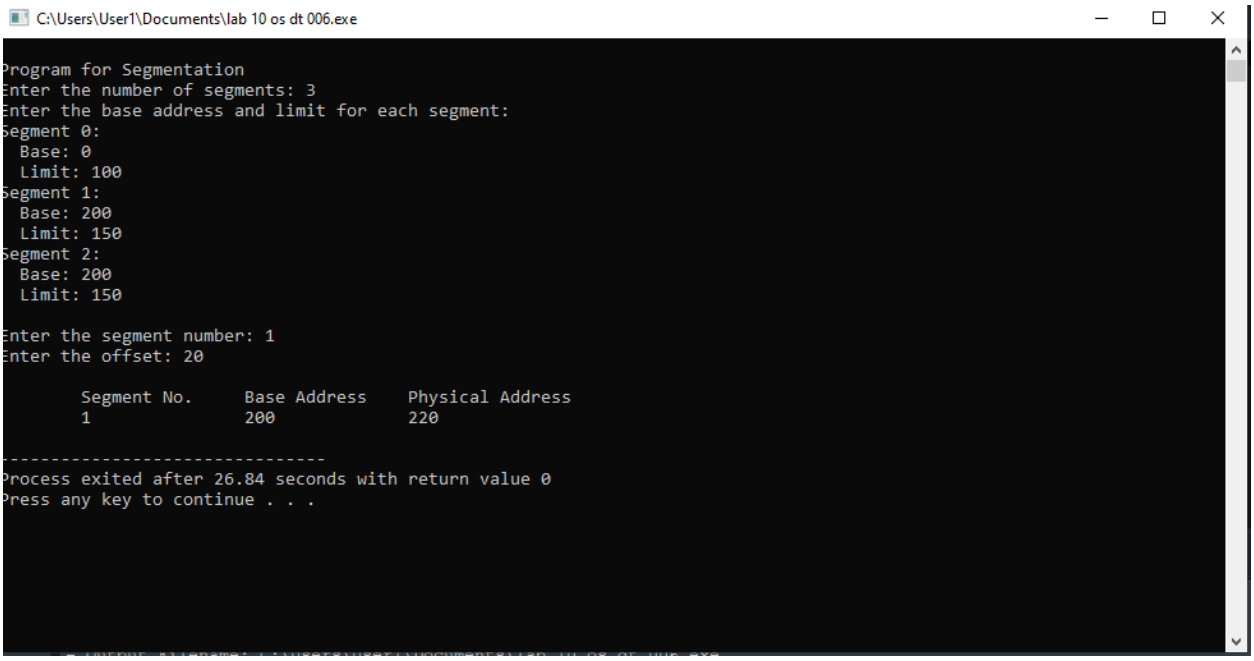
Lab 11: MEMORY MANAGEMENT TECHNIQUES

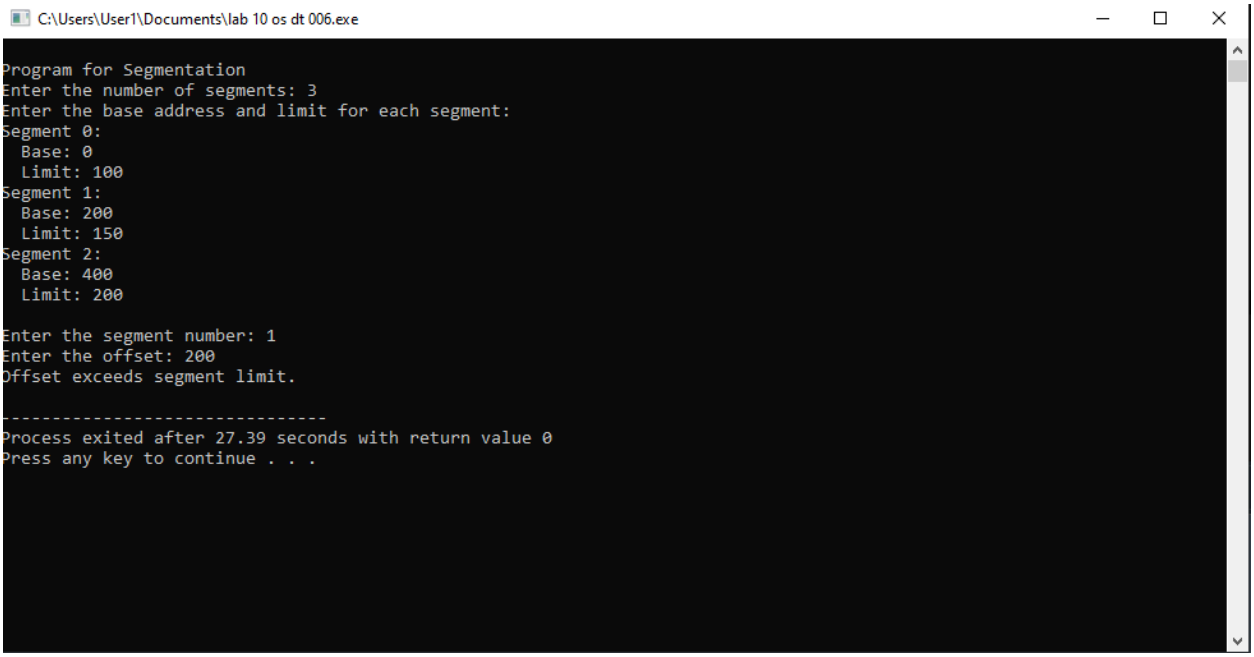
CODE:

```
#include <stdio.h>
#include <stdlib.h> // for exit()

int main() {
  int base[20], limit[20], n, i, pa, segment_no, offset;

  printf("\nProgram for
  Segmentation"); printf("\nEnter 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:\n", i);
    printf(" Base: ");
    scanf("%d", &base[i]);
    printf(" Limit: ");
    scanf("%d", &limit[i]);
  }

  printf("\nEnter the segment number:
  "); scanf("%d", &segment_no);
```

```
    if(segment_no < 0 || segment_no >=
       n) { printf("Invalid segment
       number!\n"); return 1;
    }

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

    if(offset < limit[segment_no]) {
       pa = base[segment_no] + offset;
       printf("\n\tSegment No.\tBase Address\tPhysical Address\n");
       printf("\t%d\t\t%d\t\t%d\n", segment_no, base[segment_no], pa);
    } else {
       printf("Offset exceeds segment limit.\n");
    }

    return 0;
}
```

OUTPUT:


C:\Users\User1\Documents\lab 10 os dt 006.exe
Program for Segmentation
Enter the number of segments: 3
Enter the base address and limit for each segment:
Segment 0:
Base: 0
Limit: 100
Segment 1:
Base: 200
Limit: 150
Segment 2:
Base: 200
Limit: 150
Enter the segment number: 1
Enter the offset: 20
Segment No. Base Address Physical Address
1 200 220
Process exited after 26.84 seconds with return value 0
Press any key to continue . . .


C:\Users\User1\Documents\lab 10 os dt 006.exe
Program for Segmentation
Enter the number of segments: 3
Enter the base address and limit for each segment:
Segment 0:
Base: 0
Limit: 100
Segment 1:
Base: 200
Limit: 150
Segment 2:
Base: 400
Limit: 200
Enter the segment number: 1
Enter the offset: 200
Offset exceeds segment limit.
Process exited after 27.39 seconds with return value 0
Press any key to continue . . .