

CSE 306: Data Structure Lab (Sec-1)
Department of Computer Science and Engineering
University of Liberal Arts Bangladesh

Course Title: Algorithms Lab

Course Code: CSE 306

Total Marks: 15

Time: 40 minutes

Name: _____ **ID:** _____

1. Consider the following code: 10

```
#include <stdio.h>

#define MAX_SIZE 7

int arr[MAX_SIZE] = {10, 80, 30, 90, 40, 50, 70};

int partition(int pivot_index)
{
    int pivot = arr[pivot_index];

    int smaller_index = 0;

    // write your solution here

    return smaller_index;
}

int main()
{
    int pivot_index;
    scanf("%d" & pivot_index);
    printf("%d\n", partition(pivot_index));

    return 0;
}
```

Complete the function `partition` that places the `pivot` element at its position if the array was sorted. Place all the smaller elements to the left of the `pivot` and put all the greater elements to the right of the `pivot`. Return the updated index of the `pivot`.

SAMPLE INPUT	SAMPLE OUTPUT
6	4

2. Interview 5