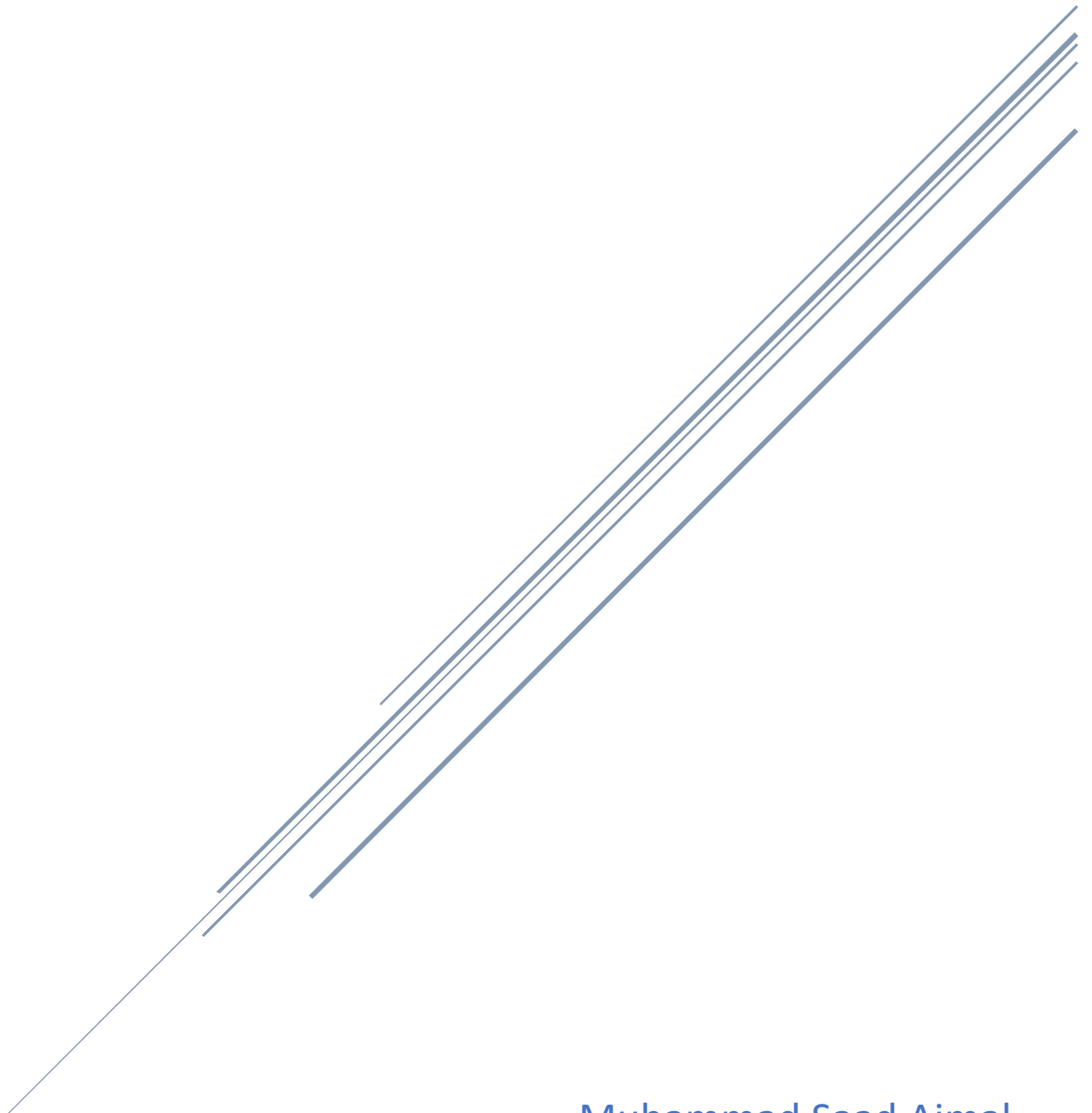


FUNDAMENTALS OF PROGRAMMING

LAB MANUAL #8



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1. Write a C++ program to calculate average of numbers of array.

```
2. #include <iostream>
3. using namespace std;
4.
5. int main(){
6.     int arr[]={10, 20, 30, 40, 50};
7.     int n = sizeof(arr) / sizeof(arr[0]);
8.     double sum = 0.0;
9.     for (int i=0; i<n; ++i){
10.         sum += arr[i];
11.     }
12.     double avg = sum/n;
13.     cout<<"average of array is: "<<avg;
14.     return 0;
15.}
```

OUTPUT:

```
average of array is: 30
PS E:\Coding> 
```

2. Implement Bubble sort on an array of 5 integers.

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

int main()
{
    int arr[] = {15, 13, 6, 8, 5};
    int n = sizeof(arr) / sizeof(arr[0]);
    for (int i = 0; i < n - 1; ++i)
    {
        for (int j = 0; j < n - i - 1; ++j)
        {
            if (arr[j] > arr[j + 1])
            {
                int temp = arr[j];
                arr[j] = arr[j + 1];
                arr[j + 1] = temp;
            }
        }
    }
    for (int i = 0; i < n; ++i)
```

```

{
    cout << arr[i] << " ";
}
return 0;
}

```

OUTPUT:

```

5 6 8 13 15
PS E:\Coding>

```

3. Implement Selection Sort on an array of 5 integers.

```

#include <iostream>
using namespace std;

int main()
{
    int arr[] = {5, 6, 13, 8, 15};
    int n = sizeof(arr) / sizeof(arr[0]);
    for (int i = 0; i < n - 1; ++i)
    {
        int a = i;
        for (int j = i + 1; j < n; ++j)
        {
            if (arr[j] < arr[a])
            {
                a = j;
            }
        }
        if (a != i)
        {
            int b = arr[i];
            arr[i] = arr[a];
            arr[a] = b;
        }
    }
    for (int i = 0; i < n; ++i)
    {
        cout << arr[i] << " ";
    }
    return 0;
}

```

OUTPUT:

```
5 6 8 13 15  
PS E:\Coding> 
```