NATIONAL UNIVERSITY OF SCIENCES & TECHNOLOGY

SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING

SEMESTER # 01

CLASS: - ME 15 [SEC A]

KASHIF NADEEM KAYANI

456466

Fundamentals of Programming

LAB MANUAL 08

Date of Submission   29 NOV 2023

Submitted to   MUHAMMAD AFFAN

QUESTION NUMBER 01

```
/*_____
Write a C++ program to calculate average of numbers of array
KASHIF NADEEM KAYANI          456466              ME-15 SEC A
*/

#include <iostream>
using namespace std;
int main(){
        int a[5] ;
float sum =0;

 for ( int i=0;i<5;i++)
 {
        cin>>a[i];
 }
        for ( int i=0;i<5;i++    )
{
        sum+=a[i];
        }
        sum=sum/5;
        cout<<sum;

        return 0;


}
```

```cpp
#include <iostream>
using namespace std;
int main(){
    int a[5] ;
float sum =0;

 for ( int i=0;i<5;i++)
 {
    cin>>a[i];
 }
    for ( int i=0;i<5;i++  )

    sum+=a[i];

    sum=sum/5;
    cout<<sum;

    return 0;


}
```

```
1
2
33
4
5
9
--------------------------------
Process exited after 2.55 seconds with return value 0
Press any key to continue . . .
```

QUESTION NUMBER 02

```
/*_____
. Implement Bubble Sort on an array of 5 integers.
KASHIF NADEEM KAYANI               456466               ME-15 SEC A
*/

#include <iostream>
using namespace std;
int main(){
        int i,j,temp;     //declaring three variables
        int a[5]={5,4,6,2,8} ;    //declaring aray a with 6 elements


         for (int i=0; i<5; i++)        //again using for loop
        {
        for(j=0; j<5; j++){       //using nested for loop
                        if(a[j]>a[j+1]){        //if previous number is greater than following number
                                temp=a[j];
                                a[j]=a[j+1];
                                a[j+1]=temp;
                        }
                }}
        for(i=1; i<=5; i++){     //using for loop for printing
                cout<<a[i]<<", ";     //printing results
        }
        return 0;
}
```

QUESTION NUMBER 03

```cpp
/*_____
Implement Selection Sort on an array of 5 integers.
KASHIF NADEEM KAYANI            456466            ME-15 SEC A
*/

#include <iostream>
using namespace std;
int main(){


        int arr [5] = {1,4,2,7,3 };    //declaring array with 5 variables
        int a=0;

        for ( int i =0; i<5;i++)
        {
                a= arr[i];
                for ( int j=i;j<5;j++    ) {

                if ( a>arr[j] )
                {
                        a=arr[j];    //applying selection sort
                        arr[j] = arr[i];
                        arr[i]=a;

                }    }
        }

        for ( int i=0; i<5;i++ )    {
                cout<<arr[i]<<" ";    //orinting output.
         } return 0;

         }
```

```cpp
#include <iostream>
using namespace std;
int main(){

    int arr [5] = {1,4,2,7,3 };   //declaring array with 5 variables
    int a=0;

    for ( int i =0; i<5;i++)
    {
        a= arr[i];
        for ( int j=i;j<5;j++  ) {

        if ( a>arr[j] )
        {
            a=arr[j];    //applying selection sort
            arr[j] = arr[i];
            arr[i]=a;

        }   }
    }

    for ( int i=0; i<5;i++ ) {
        cout<<arr[i]<<" ";   //orinting output.
    } return 0;

    }
```

Compiler   Resources   Compile Log   Debug   Find Results   Close

C:\Users\Dell\Desktop\C++\Lab\Lab tasks\Task No. 08\Question No. 03.exe

```
1 2 3 4 7
------------------------------
Process exited after 0.07451 seconds with return value 0
Press any key to continue . . .
```