

Fundamentals of programming

Lab Manual 8

Home task



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ME-15 Section A

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

```
int main(){  
    int v;  
  
    //entering number of elements in array  
    cout<<"please enter number of elements in array : ";  
    cin>>v;  
    int num[v];  
    int i,j,sum;  
    float avg;  
    sum=0;  
  
    //entering elements in array  
    cout<<"enter elements in the array: "<<endl;  
    for (i=0;i<v;i++){  
        cin>>num[i] ;  
    }  
    for(j=0;j<v;j++){  
        sum+=num[j];  
    }  
  
    //calculating average  
    avg=sum/v;  
    cout<<"average of elements in array is "<<avg;  
}
```

```
D:\C++\lab manual 8.exe × + ∨
please enter number of elements in array : 6
enter elements in the array:
7
6
5
4
5
6
average of elements in array is 5
-----
Process exited after 12.8 seconds with return value 0
Press any key to continue . . .
```

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

```
int main(){
    int num[5];
    int i,j,k,z,temp;
    // entering elements in array
    cout<<"enter elements in the array: "<<endl;
    for (i=0;i<5;i++){
        cin>>num[i];
    }
    //using nested loop to perform bubble sort
    for (j=0;j<5;j++){
        for(k=0;k<4;k++){
            if(num[k]>num[k+1]){
                temp=num[k+1];
                num[k+1]=num[k];
                num[k]=temp;
            }
        }
    }
}
```

```

        }
    }
}

//outputting sorted elements
cout<<"sorted elements in array are: "<<endl;
for (z=0;z<5;z++){
    cout<<num[z]<<endl;
}

```

```

enter elements in the array:
8
7
6
5
4
sorted elements in array are:
4
5
6
7
8

-----
Process exited after 8.502 seconds with return value 0
Press any key to continue . . . |

```

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

```

int main(){
    int num[5],min;

    //entering elements in array
    cout<<"enter elements in array: "<<endl;
    for(int i=0;i<5;i++){
        cin>>num[i];
    }
}

```

```
}  
//using nested loops to perform insertion sort  
for (int j=0;j<5;j++){  
    min=num[j];  
    for(int k=j;k<5;k++)  
    {  
        if (min>num[k]){  
            min=num[k];  
            num[k]=num[j];  
            num[j]=min;  
        }  
    }  
}  
//outputting sorted elements  
cout<<"sorted elements are: "<<endl;  
for(int z=0;z<5;z++)  
cout<<num[z]<<endl;  
}
```



D:\C++\lab manual 8.exe



enter elements in array:

45

23

4

6

77

sorted elements are:

4

6

23

45

77

Process exited after 7.281 seconds with return value 0
Press any key to continue . . . |