Calculator

```
using namespace std;

#include <iostream>

int main(){
    double a,b;
    cout<<"Enter A1 : ";
    cin>>a;
    double result=0;
    int z=0;
    while (z!=1)
    {
        cout<<"\nChoose operations : \n'+', '-', '*', '/', '^'\n'e
For Exit' : ";
        char ch;
        cin>>ch;
        switch (ch)
        {
        case '+':
            if(result!=0){
                cout<<"Enter B : ";
                cin>>b;
                result =result+b;
            }else{
                 cout<<"Enter B1 : ";
                cin>>b;
                result=a+b;
            }
            cout<<result;
            break;
        case '-':
            if(result!=0){
                 cout<<"Enter B : ";
                cin>>b;
                result =result-b;
            }else{
                 cout<<"Enter B1 : ";
                cin>>b;
                result=a-b;
            }
```

```
            cout<<result;
            break;
        case '*':
            if(result!=0){
                 cout<<"Enter B : ";
                cin>>b;
                result =result*b;
            }else{
                 cout<<"Enter B1 : ";
                cin>>b;
                result=a*b;
            }
            cout<<result;
            break;
        case '/':
            if(result!=0){
                cout<<"Enter B : ";
                cin>>b;
                result =result/b;
            }else{
                 cout<<"Enter B1 : ";
                cin>>b;
                result=a/b;
            }
            cout<<result;
            break;
        case '^':
            if(result!=0){
                cout<<"Enter power : ";
                cin>>b;
                double pow=1;
                while (b>0)
                {
                    pow=pow*result;
                    --b;
                }
                 result=pow;
            }else{
                cout<<"Enter power : ";
                cin>>b;
                double pow=1;
                while (b>0)
```

```
                {
                    pow=pow*a;
                    --b;
                }
               result=pow;
            }
            cout<<result;
            break;
        case 'e':
            z=1;
            break;

        default:
            cout<<"Please choose correct operation";
            break;
        }
    }

    cout<<"Answer : "<<result;

}
```

```
Enter A1 : 3

Choose operations :
'+', '-', '*', '/', '^'
'e For Exit' : ^
Enter power : 3
27
Choose operations :
'+', '-', '*', '/', '^'
'e For Exit' : /
Enter B : 9
3
Choose operations :
'+', '-', '*', '/', '^'
'e For Exit' : +
Enter B : 30
33
Choose operations :
'+', '-', '*', '/', '^'
'e For Exit' : e
Answer : 33
```

File

```
using namespace std;

#include <iostream>
#include <fstream>
#include <math.h>


double cal_dif(double x1,double y1);

int main(){
    ifstream myFile;
    cout<<"Enter File name : ";
    string file;
    cin>>file;
    myFile.open(file);//point.txt
    //myFile.open("point.txt");
    int count=0;
    if(myFile.is_open()){
        double x;
        while (myFile>>x)
        {
            cout<<x<<endl;
           // arr[i++]=x;
            count++;
        }
        cout<<"Point count : "<<count<<"\n";
        myFile.close();
    }else{
        cout<<"File not found";
    }

    double arr[count];
    myFile.open(file);//point.txt
    //myFile.open("point.txt");

    if(myFile.is_open()){
        double x;
        int i=0;
        while (myFile>>x)
        {
            arr[i++]=x;
```

```
        }
        myFile.close();
    }else{
        cout<<"File not found";
    }

    int n=count/2;
    double dif_arr[n],result;
    int j=0;
    cout<<"\n";

    for (int i = 0; i < count; i++) {
        result=cal_dif(arr[i],arr[++i]);
        cout<<result<<" ";
        dif_arr[j]=result;
        ++j;
    }

    // cout<<"\n";
    // for (int j = 0; j < 3; j++) {
    //     cout<<dif_arr[j]<<" ";
    // }

    double temp;
    for(int i=0;i<n;i++) {
        for(int j=i+1;j<n;j++) {
            if(dif_arr[i]>dif_arr[j]){
                temp=dif_arr[i];
                dif_arr[i]=dif_arr[j];
                dif_arr[j]=temp;
            }
        }
    }

    // cout<<"\nSorted Difference array:\n";

    // for (int j = 0; j < n; j++) {
    //     cout<<dif_arr[j]<<" ";
    // }

    ofstream sfile;
    string file1;
```

```
    cout<<"\nEnter File name : ";
    cin>>file1;
    sfile.open(file1);//s_point.txt
    //sfile.open("s_point.txt");

    if(sfile.is_open()){
        for (int j = 0; j < n; j++) {
            sfile<<dif_arr[j]<<endl;
        }
        cout<<"\nValue Store successfully\n";
        sfile.close();
    }else{
        cout<<"File not found";
    }

    cin.get();
    return 0;
}

double cal_dif(double x1,double y1){
    double x=0,y=0;
    return sqrt(pow(x1 - x, 2) + pow(y1 - y, 2) * 1.0);
}
```

```
Enter File name : point.txt
28
11.5
14
14.5
12
12.5
13
13.5
8
16
14
7
12
28 11.5 14 14.5 12 12.5 13 13.5 8 16 14 7

16.2635 20.5061 17.6777 19.0919 22.6274 9.89949
Sorted Difference array:
9.89949 16.2635 17.6777 19.0919 20.5061 22.6274
16
14
7
Point count : 12


16.2635 20.5061 17.6777 19.0919 22.6274 9.89949
Enter File name : s_point.txt

Value Store successfully
```