



# **CALCULATOR**

- 1- using switch**
- 2- using functions**
- 3- using structures**
- 4- using classes and operator overloading**

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## Calculator using switch

```
//Calculator using switch statement
```

```
#include<iostream>
```

```
#include<conio.h>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    float n1,n2,res;
```

```
    int ch;
```

```
    cout<<"\n\t=====
=====\\n"<<endl;
```

```
        cout<<"\n\t    Calculator using Switch "<<endl;
```

```
    cout<<"\n\t=====
=====\\n"<<endl;
```

```
    do
```

```
    {
```

```
        cout<<"Enter Two Numbers \n\n";
```

```
        cout<<"Number 1 : ";cin>>n1;
```

```
        cout<<"Number 2 : ";cin>>n2;
```

```
        cout<<"\nEnter choice what you want to calculate\n\n";
```

```
        cout<<"1-Addition(+)\n";
```

```
cout<<"2-Subtract(-)\n";

cout<<"3-Multiply(*)\n";

cout<<"4-Divide(/)\n";

cout<<"5-Modulus(%)\n";

cout<<"6-Exit\n";

cin>>ch;

switch(ch)
{
    case 1:

        cout<<n1<<" + "<<n2<<" = "<<n1+n2<<endl;

        break;

    case 2:

        cout<<n1<<" - "<<n2<<" = "<<n1-n2<<endl;

        break;

    case 3:

        cout<<n1<<" * "<<n2<<" = "<<n1*n2<<endl;

        break;

    case 4:

        cout<<n1<<" / "<<n2<<" = "<<n1/n2<<endl;

        break;

    case 5:
```

```
        cout<<(int)n1<<" % "<<(int)n2<<" = "<<(int)n1%(int)n2<<endl;

        break;

    default:

        cout<<"Thank you for using this :) \n";

        getch();

    }

}

while(ch>0 && ch<6);

}
```

```
=====
                        Calculator using Switch
=====

Enter Two Numbers
Number 1 : -99
Number 2 : 23

Enter choice what you want to calculate
1-Addition(+)
2-Subtract(-)
3-Multiply(*)
4-Divide(/)
5-Modulus(%)
6-Exit
2
-99 - 23 = -122
Enter Two Numbers
Number 1 : 1
Number 2 : 2

Enter choice what you want to calculate
1-Addition(+)
2-Subtract(-)
3-Multiply(*)
4-Divide(/)
5-Modulus(%)
6-Exit
6
Thank you for using this :)
```

## Calculator using functions

```
//calculator using functions
```

```
#include<iostream>
```

```
#include<conio.h>
```

```
using namespace std;
```

```
float sum(float a,float b)
```

```
{
```

```
    return a+b;
```

```
}
```

```
float sub(float a,float b)
```

```
{
```

```
    return a-b;
```

```
}
```

```
float mul(float a,float b)
```

```
{
```

```
    return a*b;
```

```
}
```

```
float div(float a,float b)
```

```
{
```

```
    return a/b;
```

```
}
```

```
int mod(float a,float b)

{

    return (int)a%(int)b;

}

int main()

{

    cout<<"\n\t=====
=====\\n"<<endl;

    cout<<"\n\t    Calculator using Functions"<<endl;

    cout<<"\n\t=====
=====\\n"<<endl;

    float n1,n2,res;

    int ch;

    do

    {

        cout<<"Enter Two Numbers \\n\\n";

        cout<<"Number 1 : ";cin>>n1;

        cout<<"Number 2 : ";cin>>n2;

        cout<<"\\nEnter choice what you want to calculate\\n\\n";

        cout<<"1-Addition(+)"\\n";

        cout<<"2-Subtract(-)"\\n";
```

```
cout<<"3-Multiply(*)\n";

cout<<"4-Divide(/)\n";

cout<<"5-Modulus(%)\n";

cout<<"6-Exit\n";

cin>>ch;

switch(ch)

{

    case 1:

        cout<<n1<<" + "<<n2<<" = "<<sum(n1,n2)<<endl;

        break;

    case 2:

        cout<<n1<<" - "<<n2<<" = "<<sub(n1,n2)<<endl;

        break;

    case 3:

        cout<<n1<<" * "<<n2<<" = "<<mul(n1,n2)<<endl;

        break;

    case 4:

        cout<<n1<<" / "<<n2<<" = "<<div(n1,n2)<<endl;

        break;

    case 5:

        cout<<(int)n1<<" % "<<(int)n2<<" = "<<mod(n1,n2)<<endl;
```

```
        break;

    default:

        cout<<"Thank you for using this :) \n";

        getch();

    }

}

while(ch>0 && ch<6);

}
```

```
=====
Calculator using Functions
=====

Enter Two Numbers
Number 1 : 43
Number 2 : 24

Enter choice what you want to calculate
1-Addition(+)
2-Subtract(-)
3-Multiply(*)
4-Divide(/)
5-Modulus(%)
6-Exit
3
43 * 24 = 1032
Enter Two Numbers
Number 1 : 4
Number 2 : 5

Enter choice what you want to calculate
1-Addition(+)
2-Subtract(-)
3-Multiply(*)
4-Divide(/)
5-Modulus(%)
6-Exit
1
4 + 5 = 9
Enter Two Numbers
Number 1 : 43
```



## Calculator using structures

//Calculator using structure

#include<iostream>

using namespace std;

struct calculator

{

float n1,n2,res;

void input()

{

cout<<"\n";

cout<<"\n\t";

cout<<"Enter Number 1:\t";

cin>>n1;

cout<<"\tEnter Number 2:\t";

cin>>n2;

}

void sum()

{

res=n1+n2;

```
}  
  
void sub()  
  
{  
  
    res=n1-n2;  
  
}  
  
void mul()  
  
{  
  
    res=n1*n2;  
  
}  
  
void div()  
  
{  
  
    res=n1/n2;  
  
}  
  
void print()  
  
{  
  
    cout<<"\n\tAnswer is "<<res;  
  
}  
  
};  
  
int main()
```

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```
{  
  
    case '+':  
  
        n1.sum();  
  
        n1.print();  
  
        break;  
  
    case '-':  
  
        n1.sub();  
  
        n1.print();  
  
        break;  
  
    case '*':  
  
        n1.mul();  
  
        n1.print();  
  
        break;  
  
    case '/':  
  
        n1.div();  
  
        n1.print();  
  
        break;  
  
    default:  
  
        cout<<"\n\tTHANK YOU "<<endl;  
  
        break;  
  
}
```

```
}while(op == '+' || op == '-' || op == '*' || op == '/');  
  
}
```

```
=====
                        Calculator using Structure
=====

Enter Number 1: 45
Enter Number 2: 23

Enter Operation
-->Addition (+)
-->Subtraction (-)
-->Multiplication (*)
-->Division (/)
-->Exit(0)

*

Answer is 1035

Enter Number 1: 334
Enter Number 2: 2

Enter Operation
-->Addition (+)
-->Subtraction (-)
-->Multiplication (*)
-->Division (/)
-->Exit(0)

/
```

## Calculator using Class and operator overloading

//calculator using classes and operator overloading

```
#include<iostream>
```

```
using namespace std;
```

```
class calculator
```

```
{
```

```
    int a;
```

```
    public:
```

```
        calculator()
```

```
        {
```

```
            cout<<"\n";
```

```
            cout<<"\n\t";
```

```
            cout<<"Enter Number :\t";
```

```
            cin>>a;
```

```
        }
```

```
        calculator(int n)
```

```
        {
```

```
            a=n;
```

```
        }
```

```
calculator operator +(calculator n2)
```

```
{
```

```
    calculator c(0);
```

```
    c.a=a+n2.a;
```

```
    return c;
```

```
}
```

```
calculator operator -(calculator n2)
```

```
{
```

```
    calculator c(0);
```

```
    c.a=a-n2.a;
```

```
    return c;
```

```
}
```

```
calculator operator *(calculator n2)
```

```
{
```

```
    calculator c(0);
```

```
    c.a=a*n2.a;
```

```
    return c;
```

```
}
```

```
calculator operator /(calculator n2)
```

```
{
```

```
    calculator c(0);
```

```
        c.a=a/n2.a;

        return c;

    }

    void print()

    {

        cout<<"\n\tAnswer is "<<a;

    }

};

int main()

{

    cout<<"\n\t=====
=====\\n"<<endl;

    cout<<"\n\t    Calculator using operator overloading"<<endl;

    cout<<"\n\t=====
=====\\n"<<endl;

    calculator n1,n2,n3(0);

    char op;

    cout<<"\n\tEnter Operation\\n";

        cout<<"\n\tAddition (+)\\n";

        cout<<"\n\tSubtraction (-)\\n";
```



```
        cout<<"\n\tMultiplication (*)\n";

        cout<<"\n\tDivision (/)\n\n\t";

        cin>>op;

        switch (op)
        {

            case '+':

                n3=n1+n2;

                n3.print();

                break;

            case '-':

                n3=n1-n2;

                n3.print();

                break;

            case '*':

                n3=n1*n2;

                n3.print();

                break;

            case '/':

                n3=n1/n2;

                n3.print();

                break;
```

default:

```
cout<<"\n\tTHANK YOU "<<endl;
```

```
break;
```

```
}
```

```
}
```

```
=====
```

```
Calculator using operator overloading
```

```
=====
```

```
Enter Number : 45
```

```
Enter Number : 20
```

```
Enter Operation
```

```
Addition (+)
```

```
Subtraction (-)
```

```
Multiplication (*)
```

```
Division (/)
```

```
/
```

```
Answer is 2
```

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