

Write a C++ program to read a number, and print the day of the week:

```
#include<iostream.h>
```

```
void main( )  
{  
    int day;  
    cin >> day;  
    if ( day == 1 ) cout << "Sunday";  
    else if (day == 2) cout << "Monday";  
    else if (day == 3) cout << "Tuesday";  
    else if (day == 4) cout << "Wednesday";  
    else if (day == 5) cout << "Thursday";  
    else if (day == 6) cout << "Friday";  
    else if (day == 7) cout << "Saturday";  
    else cout << "Invalid day number";  
}
```

Write C++ program to compute the value of Z according to the following equations:

$$Z = \begin{cases} x + 5 & : x < 0 \\ \cos(x) + 4 & : x = 0 \\ \sqrt{x} & : x > 0 \end{cases}$$

5- Nested If Statements:

Some of the samples of **NESTED if-else** constructions are shown below:

<pre>If (exp.) { Statements } Else { Statements}</pre>	<pre>If (exp.) { If (exp.) {Statements} Else { Statements} } Else {Statements}</pre>	<pre>If (exp.) { If (exp.) {Statements} Else { Statements} } Else {If (exp) {Statements} Else {Statement} }</pre>
---	--	---

```
if (expression1)
{
  if (expression2)
    Statment1;
else
  {
    if (expression3)
      Statment2;
    else
      Statment3;
  }
}
else
  Statment4;
```

Write C++ program to insert two numbers and find the possibility of dividing the first number by the second.

```
#include<iostream.h>
void main()
{
int a1, a2;
cout<<"Enter two numbers.\nFirst:";
cin>>a1;
cout<<"\nSecond:";

cin>>a2;
cout<<"\n\n";

if (a1 >= a2)
{
if((a1%a2)==0) //evenly divisible?
{
if(a1==a2)
cout<<"They are the same!\n";
else
cout<<"They are evenly divisible!\n";
}
else
cout<<"They are not evenly divisible!\n";
}
else
cout<<"Hey!The second one is larger!\n";
}
```

1- *The switch case statement*

The switch statement is a special multi way decision maker that tests whether an expression matches one of the number of constant values, and braces accordingly.

General form of switch selection statement

```
switch (variable){  
  case valueOne: statement; break;  
  case valueTwo: statement; break;  
  ....  
  case valueN: statement; break;  
  default: statement;  
}
```

Example:

```
switch (value)  
{  
  case 0:  cout << "grade is A";  
           break;  
  case 1:  cout << "grade is B";  
           break;  
  case 2:  cout << "grade is C";  
           break;  
  default: cout << "grade is X";  
           break;  
}
```

Example:1

Write C++ program to read integer number, and print the name of the day in a week:

```
#include<iostream.h>
void main( )
{
int day;
cout << "Enter the number of the day \n";
cin >> day;

switch (day)
{
case 1:    cout << "Sunday"; break;
case 2:    cout << "Monday";break;
case 3:    cout << "Tuesday";break;
case 4:    cout << "Wednesday "; break;
case 5:    cout << "Thursday";    break;
case 6:    cout << "Friday";  break;
case 7:    cout << "Saturday";    break;
default:   cout << "Invalid day number"; break;
}
}
```

Example:2-1

Write C++ program to read two integer numbers, and read the operation to perform on these numbers:

Note : (used in if Else)

```
#include<iostream.h>
void main()
{
int num1, num2;
float Result;
char ch;
cout<<" enter two numbers\n";
cin>> num1>> num2;
cout<<" enter one of operators + - * / \n ";
cin>>ch;
if (ch == ' + ')
Result = num1 + num2 ;
else
if (ch == ' - ')
Result = num1 - num2 ;
else
if (ch == ' * ')
Result = num1 * num2 ;
else
Result = num1 / num2 ;
cout<< Result;
}
```


Example:2-2

Write C++ program to read two integer numbers, and read the operation to perform on these numbers:

Note : (used in Switch case)


```
#include<iostream.h>
Void main()
{
int num1, num2 ;
char ch ;
float result;
cout<< "enter two numbers\n ";
cin>>num1 >> num2;
cout<< "enter one of operators + - * , /\n" ;
cin>>ch ;
switch ( ch ) {
case '+ ': result = num1 + num2; break;
case '- ': result = num1 - num2; break;
case '* ': result = num1 * num2; break;
case '/ ': result = num1 / num2; break;
default : cout<<"not correct character\n";break;
}
cout<< result ;
}
```


Example 1

 Write C++ program to read integer number, and print the name of the day in a week:

```
#include<iostream.h>
void main( )
{
    int day;
    cout << "Enter the number of the day \n";
    cin >> day;
    switch (day)
    {
        case 1: cout << "Sunday";    break;
        case 2: cout << "Monday";   break;
        case 3: cout << "Tuesday";  break;
        case 4: cout << "Wednesday"; break;
        case 5: cout << "Thursday"; break;
        case 6: cout << "Friday";   break;
        case 7: cout << "Saturday";  break;
        default: cout << "Invalid day number"; break;
    }
}
```

Example 2

 Write C++ program to read two integer numbers, and read the operation to perform on these numbers:

```
#include<iostream.h>
void main( )
{
    int a, b;
    char x;

    cout << "Enter two numbers \n";
    cin >> a >> b;

    cout << "+ for addition \n";
    cout << "- for subtraction \n";
    cout << "*" for multiplication \n";
    cout << "/" for division \n";
    cout << "enter your choice \n";
    cin >> x;

    switch ( x )
    {
        case '+': cout << a + b;
                  break;
    }
}
```



```

    case '-': cout << a - b;
              break;
    case '*': cout << a * b;
              break;
    case '/': cout << a / b;
              break;
    default: break;
}
}

```

2. Nested Switch Selection Statement:

General Form of Nested Switch Selection statement:

```

switch ( selector1 )
{
    case label1 : statement1 ; break;
    case label2 : statement2 ; break;
    case label3 : switch ( selector2 )
                  {
                      case label1 : statement1 ; break;
                      case label2 : statement2 ; break;
                      :
                  }
    case label-n : statement-n ; break;
    default : statement-e ; break;
}

```

Example 3

 Write C++ program to read integer number, and print the name of the computerized department:

```

#include<iostream.h>
void main( )
{
    int i,j;
    cout << "Enter the number for the department name \n";
    cin >> i>>j;
    switch (i)
    {

```

