

Programming Language

Using C++

Examples

Lecture #11-b



Example #5

Write C++ program to read a student grade (A, B, C, D, F). Test the grade and print out results as follow:

- A: “Excellent”
- B: “Very Good”
- C: “Good”
- D: “Pass”
- F: “Fail”

```
#include <iostream>
Using namespace std;
main( )
{
    char grade;
    cout<<“Enter student grade:”
    cin>>grade;
    if(grade == ‘A’)
    {
        cout<<“\n Excellent”;
    }
    else if(grade == ‘B’)
    {
        cout <<“\n Very Good”;
    }
    else if(grade == ‘C’)
    {
        cout<<“\n Good”;
    }
}
```

```
else if(grade == ‘D’)
{
    cout <<“\n Pass”;
}
else if (grade = ‘F’)
{
    cout <<“\n Fail”;
}
return 0;
}
```

Example #6

Write C++ program to read an integer number, and evaluate it as follow:

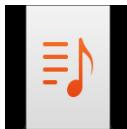
- 1: “January”
- 2: “February”
- 3: “March”
- :
- :
- 12: “December”



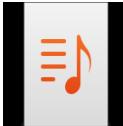
```
#include <iostream>
using namespace std;
main( )
{
    int num;
    cout<<“Enter the number:”
    cin>>num;
    if(num == 1)
    {
        cout<<“\n It is January month”;
    }
    else if(num == 2)
    {
        cout<<“\n It is February month”;
    }
    else if(num == 3)
    {
        cout<<“\n It is March month”;
    }
}
```



```
else if(num == 4)
{
    cout <<“\n It is April month”;
}
else if (num = 5)
{
    cout <<“\n It is May month”;
}
else if (num == 6)
{
    cout <<“\n It is June month”;
}
else if (num == 7)
{
    cout <<“\n It is July month”;
}
else if(num == 8)
{
    cout <<“\n It is August month”;
}
```



```
else if (num = 9)
{
    cout <<“\n It is September month”;
}
else if (num == 10)
{
    cout <<“\n It is October month“;
}
else if (num == 11)
{
    cout <<“\n It is November month”;
}
else if (num == 12)
{
    cout <<“\n It is Decimber month”;
}
return 0;
```

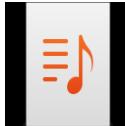


Example #7

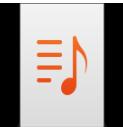
Rewrite example #5 using switch statement instead of if-else-if statement



```
#include <iostream>
using namespace std;
int main( )
{
    char grade;
    cout<<“Enter student grade:”
    cin>>grade;
    switch (grade)
    {
        case 'A':
            cout << "\n Excellent " ;
            break;
        case 'B':
            cout << "\n Very Good " ;
            break;
        case 'C' :
            cout << "\n Good " ;
            break;
```



```
case 'D' :  
    cout << "\n Pass " ;  
    break;  
case 'F':  
    cout << "\n Fail " ;  
    break;  
default:  
    cout <<"Wrong entry"<<endl;  
}  
return 0;  
}
```

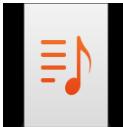


Example #8

Rewrite example #6 using
switch statement.



```
#include <iostream>
using namespace std;
int main( )
{
    int num;
    cout<<“Enter the number:”
    cin>>num;
    switch (num)
    {
        case 1:
            cout << “\n It is January month“ ;
            break;
        case 2:
            cout << “\n It is February month“ ;
            break;
        case 3:
            cout << “\n It is March month “ ;
            break;
```



case 4:

```
cout << “\n It is April month “ ;  
break;
```

case 5:

```
cout << “\n It is May month“ ;  
break;
```

case 6:

```
cout << “\n It is June month“ ;  
break;
```

case 7:

```
cout << “\n It is July month “ ;  
break;
```

case 8:

```
cout << “\n It is August month “ ;  
break;
```

case 9:

```
cout << “\n It is September month “ ;  
break;
```



case 10:

```
cout << “\n It is October month “ ;  
break;
```

case 11:

```
cout << “\n It is November month“ ;  
break;
```

case 12:

```
cout << “\n It is decimber month“ ;  
break;
```

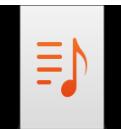
default:

```
cout << “\n Wrong entry “ ;
```

```
}
```

```
return 0;
```

```
}
```



Loop Examples



Example #9: what is the output of the following program?

```
#include <iostream>
using namespace std;
int main()
{
    int i;
    for(i = 1; i < 11; i++)
    {
        cout<<"Count is: "<<i;
    }
}
```



The output of this program is:

Count is: 1

Count is: 2

Count is: 3

Count is: 4

Count is: 5

Count is: 6

Count is: 7

Count is: 8

Count is: 9

Count is: 10

* Rewrite the program using **while** statement



Example #10

Write C++ program to find out the sum of 100 random numbers.



```
#include <iostream>
using namespace std;
int main( )
{
    int i; float num, sum=0;
    for(i = 1; i <= 100; i++)
    {
        cin>>num;
        sum = sum + num;
    }
    cout<<"the sum of 100 numbers= "<<sum;
}
```

* Rewrite the program using **while** statement



Example #11

Write C++ program to find out the sum of the following series.

2,5,8,11,14,17,20,...,234



```
#include <iostream>
using namespace std;
int main( )
{
    int i; int sum=0;
    for(i = 2; i <= 234; i+=3)
    {
        sum = sum + i;
    }
    cout<<"the sum is ="<<sum;
}
```

* Rewrite the program using **do...while** statement



Example #12

Write C++ program to find out the sum of the following series.

$1/2, 1/4, 1/8, 1/16, \dots, 1/1024$



```
#include <iostream>
using namespace std;
int main()
{
    int i; float sum=0;
    for(i = 2; i <= 1024; i*=2)
    {
        sum = sum + (float)1/i;

    }
    cout<<"the sum the series is = "<<sum;
    return 0;
}
```

* Rewrite the program using **do...while** statement

