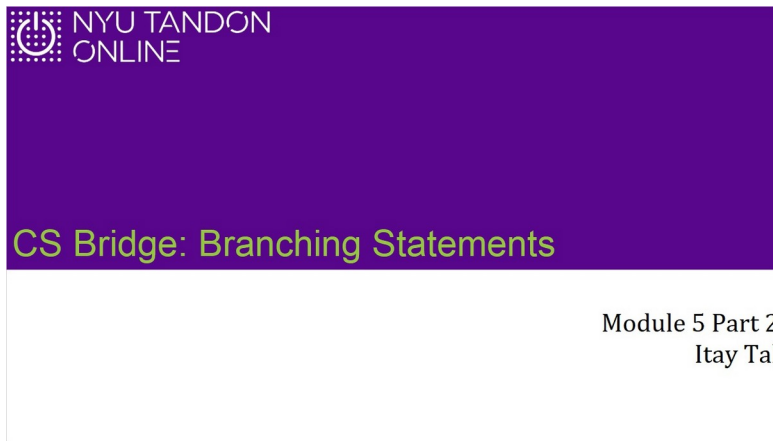


# CS Bridge Module 5 Branching Statements Part 2

## 2. Title Slide

### 2.1 CS Bridge: Branching Statements




Notes:

## 1. More Examples

### 1.1 Classifying a character


#### Classifying a character



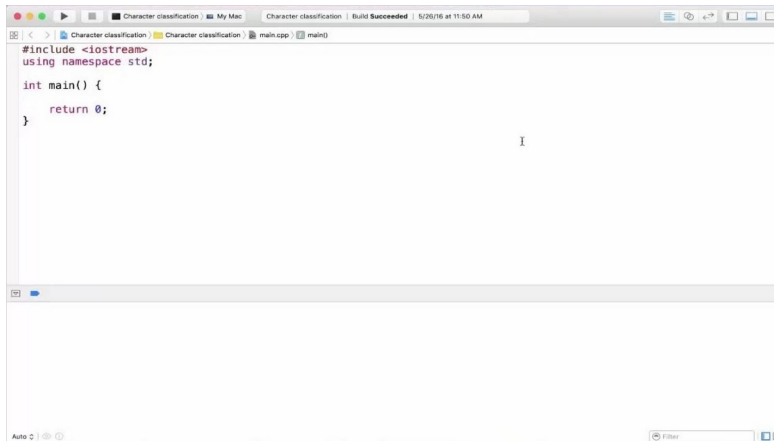
**Problem**  
Write a program that reads from the user a character, and classifies it to one of the following:

- Lower case letter
- Upper case letter
- Digit
- Not alpha-numeric character

**Example**  
Please enter a character:  
*D*  
*D is an upper case letter*



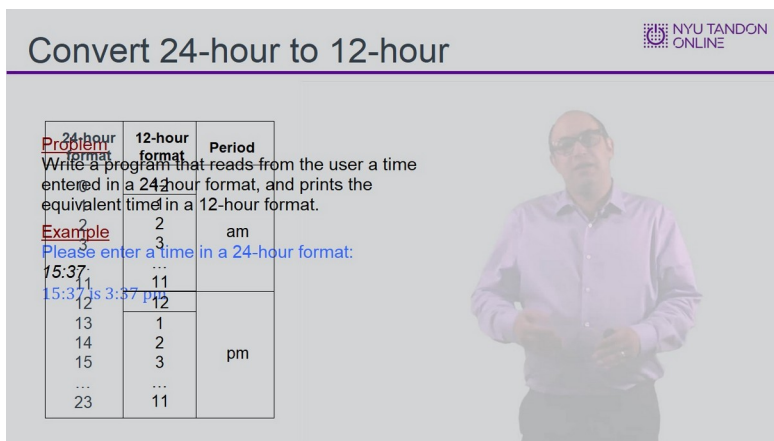
## 1.2 Classifying a character



```
#include <iostream>
using namespace std;

int main() {
    return 0;
}
```

## 1.3 Convert 24-hour to 12-hour



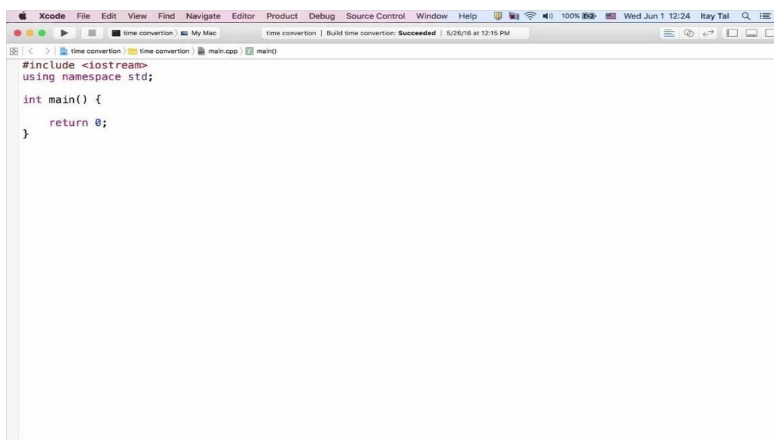
**Convert 24-hour to 12-hour**

**Problem:** Write a program that reads from the user a time entered in a 24-hour format, and prints the equivalent time in a 12-hour format.

**Example:** Please enter a time in a 24-hour format:  
15:37  
15:37 is 3:37 pm

24-hour format	12-hour format	Period
1	1	am
2	2	am
3	3	am
...	...	...
11	11	am
12	12	
13	1	pm
14	2	pm
15	3	pm
...	...	...
23	11	pm

## 1.4 Convert 24-hour to 12-hour




```
#include <iostream>
using namespace std;

int main() {
    return 0;
}
```

## 3. Switch Statements

### 3.1 Switch Statements

### Switch Statements



Data

- int
- float
- double
- char
- string
- bool


Expressions

- I/O expressions
- Numeric expressions
- Arithmetic expressions
- Boolean expressions

Control Flow

- Sequential
- Branching
  - if
  - if-else
  - if-else if-else
  - switch


```
switch (numeric-expression) {  
    case constant:   
        break;  
    case constant:   
        break;  
    default   
        break;  
}
```



Notes:

### 3.2 Computing Value Of A Simple Expression

### Computing Value Of A Simple Expression




Problem

Write a program that reads from the user a simple mathematical expression (operators allowed: +, -, /, \*), and prints it's value.

Example

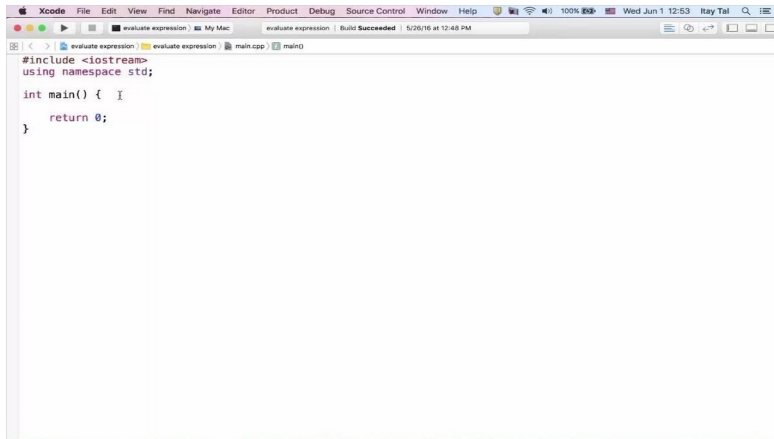
Please enter an expression of the form argument op argument:

5.2 \* 4  
20.8



Notes:

### 3.3 Computing Value Of A Simple Expression



```
#include <iostream>
using namespace std;


int main() {
    return 0;
}
```

Notes:

### 3.4 Switch Statement - Syntactic Notes

#### Switch Statement – Syntactic Notes

- The **numeric-expression** must be of type **int** (**short int**, **int**, or **long int**), **char** or **bool**
- The **case** labels must be constants (literals or named constants).
- If no **case** label matches the value of **numeric-expression**, control branches to the **default** label (If there is no **default** label then control passes to the statement following the entire switch statement)
- After a branch is taken, control proceeds sequentially until either **break** or the end of the switch statement occurs. That's why there is usually a **break** at the end of each branch



Notes:

### 3.5 Knowledge Check

(Sequence Drop-down, 10 points, unlimited attempts permitted)

## Knowledge Check

Sequence the code to determine someone's grade.

```
int input;  
cout << "Please input your numeric grade" << endl;  
cin >> input;  
if( input > 100 || input < 0 ){  
    cout << "grade not valid" << endl; }  
else if ( input > 90 )}  
    cout << "You get an A" << endl; }  
else if ( input > 80 )}  
    cout << "You get a B" << endl; }  
return 0;
```

### Correct Order

int input;

cin >> input;

input > 100 || input < 0

input > 90

input > 80

return 0;

### Feedback when correct:

That's right! You selected the correct response.

## Correct (Slide Layer)

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ONLINE

### Knowledge Check

Sequence the code to determine someone's grade.

```
int input;  
cout << "  
cin >> input;  
if( input > 100  
    cout << "  
else if ( input > 90  
    cout << "You get an A" << endl;}  
else if ( input > 80  
    cout << "You get a B" << endl;}  
return 0;
```

Correct

That's right! You selected the correct response.

Continue

## Try Again (Slide Layer)

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### Knowledge Check

Sequence the code to determine someone's grade.

```
int input;  
cout << "  
cin >> input;  
if( input > 100  
    cout << "  
else if ( input > 90  
    cout << "You get an A" << endl;}  
else if ( input > 80  
    cout << "You get a B" << endl;}  
return 0;
```

Incorrect

That is incorrect. Please try again.

Try Again

## 3.6 End of Module

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## End of Module

Exit

