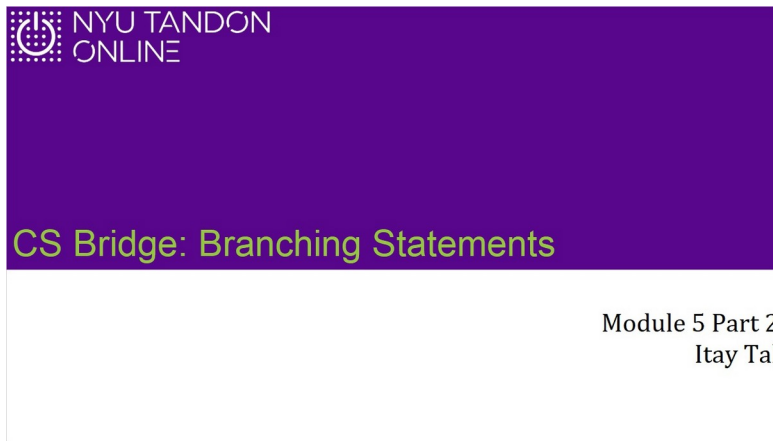


CS Bridge Module 5 Branching Statements Part 2

2. Title Slide

2.1 CS Bridge: Branching Statements



Notes:

1. More Examples

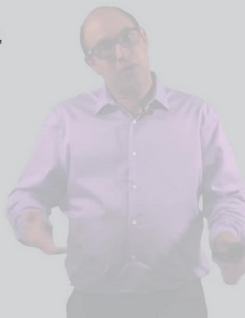
1.1 Classifying a character

Classifying a character

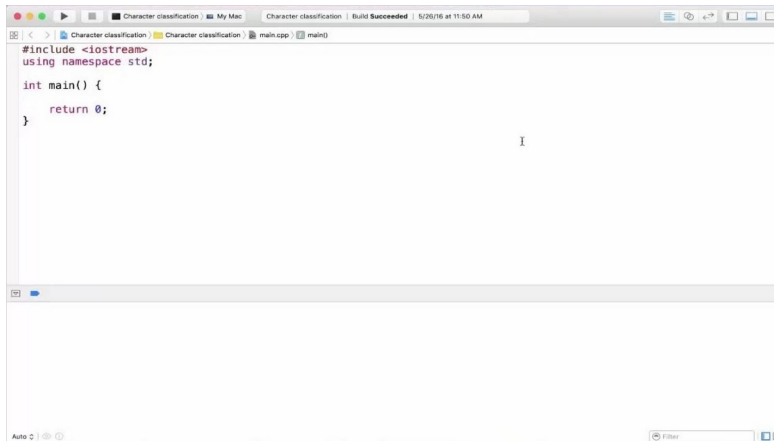
Problem
Write a program that reads from the user a character, and classifies it to one of the following:

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

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



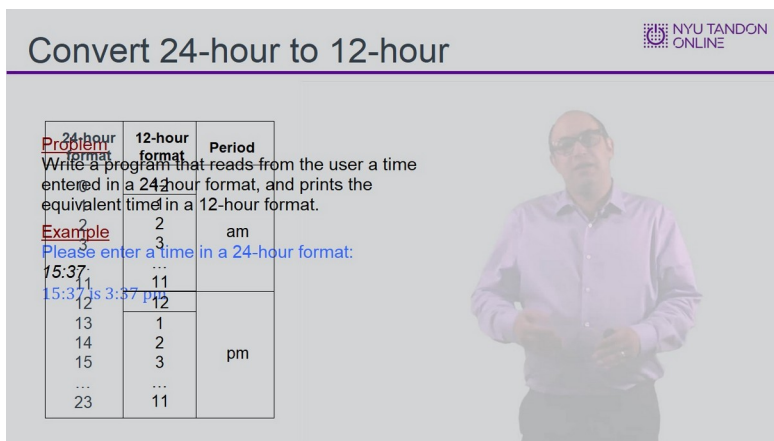
1.2 Classifying a character



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

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

1.3 Convert 24-hour to 12-hour



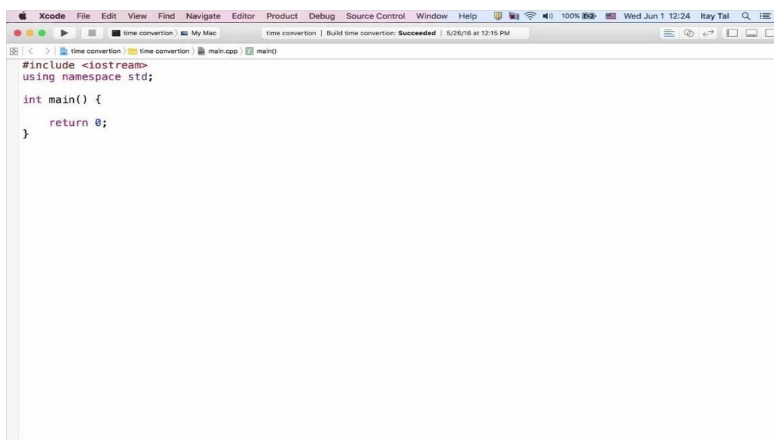
Convert 24-hour to 12-hour

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

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

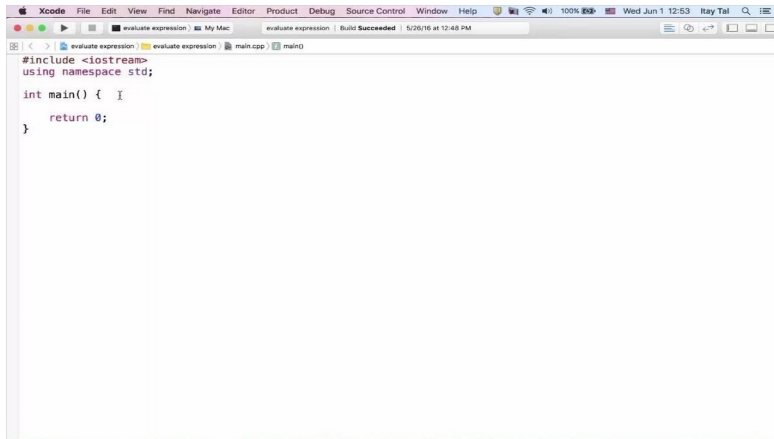
Please enter an expression of the form argument op argument:

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)

NYU TANDON
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

