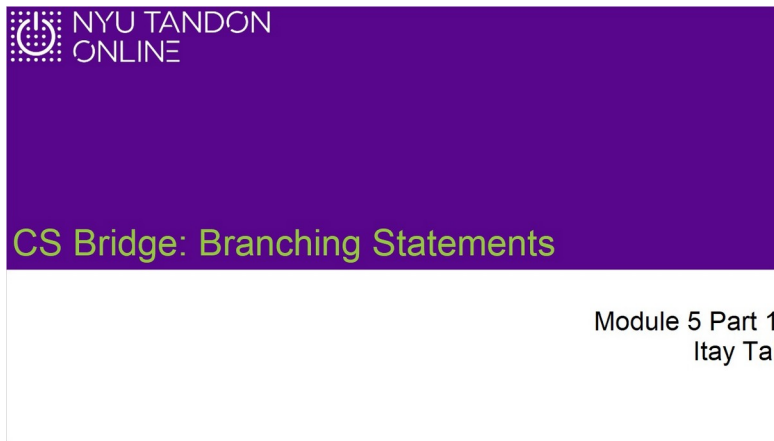


# CS Bridge Module 5 Branching Statements Part 1

## 4. Title Slide

### 4.1 CS Bridge: Branching Statements



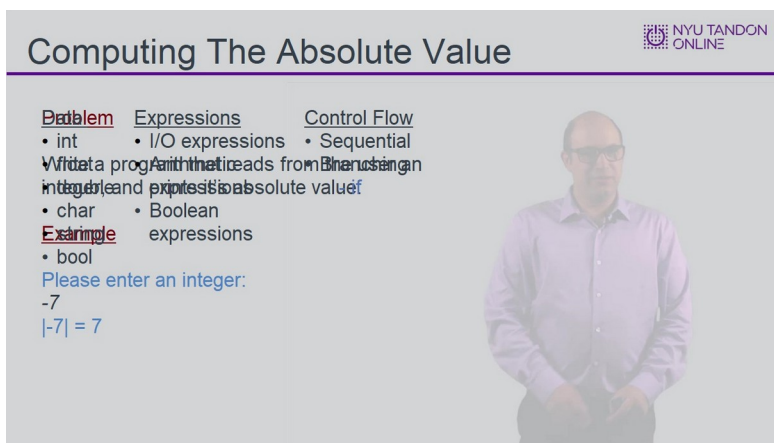
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ONLINE

CS Bridge: Branching Statements

Module 5 Part 1  
Itay Tal

## 1. Motivation

### 1.1 Computing The Absolute Value



Computing The Absolute Value

Problem	Expressions	Control Flow
• int	• I/O expressions	• Sequential
• Write a program that reads from stdin an integer and prints its absolute value		
• char	• Boolean expressions	
• bool		

Example


Please enter an integer:  
-7  
|-7| = 7

Notes:


## 2. One Way if Statements

### 2.1 Syntax and Semantics

#### Syntax and Semantics




```
***
***
if (condition)
***
***
***
```



Notes:

### 2.2 Computing the Absolute Value

#### Computing the Absolute Value




Problem

Write a program that reads from the user an integer, and prints it's absolute value.

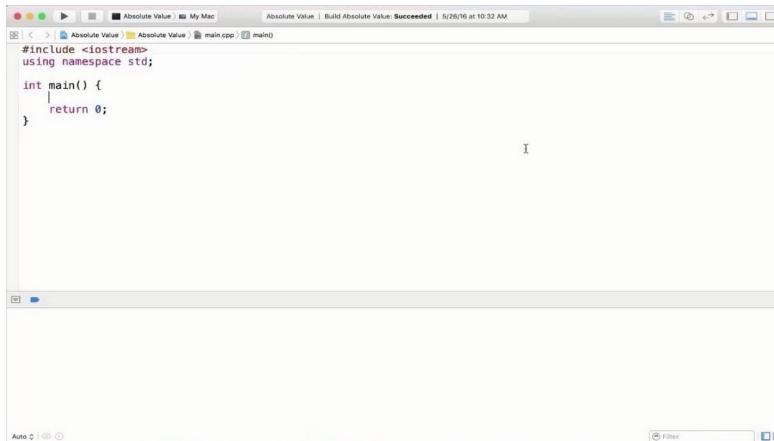
Example

Please enter an integer:  
-7  
 $|-7| = 7$



Notes:

## 2.3 Computing the Absolute Value



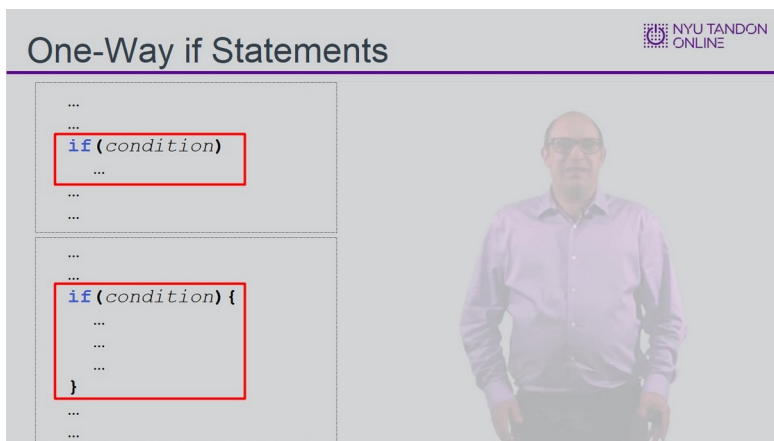
A screenshot of a C++ IDE window titled "Absolute Value". The window shows a single file named "main.cpp" with the following code:

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

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

The IDE interface includes a menu bar at the top, a toolbar, and a status bar at the bottom indicating "Auto C" and "Filter".

## 2.4 One-Way if Statements



A presentation slide titled "One-Way if Statements" from NYU Tandon Online. The slide features two code snippets on the left, each enclosed in a red box, and a presenter on the right.

The first code snippet shows a basic if statement:

```
...
if(condition)
...
```

The second code snippet shows an if statement with a block of code:

```
...
if(condition){
    ...
}
...
```

The presenter is a man with glasses wearing a purple shirt. The NYU Tandon Online logo is in the top right corner.

**Notes:**

## 3. Two way if statements

### 3.1 Determining Parity


#### Determining Parity

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Problem	Expressions	Control Flow
• int	• I/O expressions	• Sequential
Write a program that reads from the console a positive integer and determines its parity (even or odd)	• Boolean expressions	• Branching - if-else
• string expressions		

**Example**

Please enter a positive integer:  
7  
7 is odd



Notes:


### 3.2 Syntax and Semantics

#### Syntax and Semantics

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```
...  
if (condition)  
...  
else  
...  
...
```

```
...  
if (condition) {  
...  
}  
else {  
...  
}  
...
```



Notes:

### 3.3 Determining the Parity

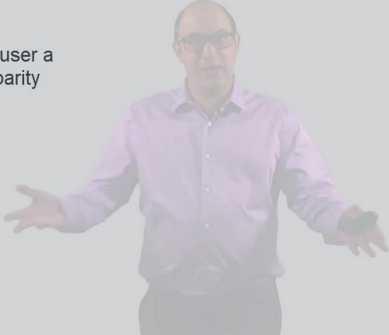
#### Determining the Parity

**Problem**

Write a program that reads from the user a positive integer, and determines its parity (even or odd).

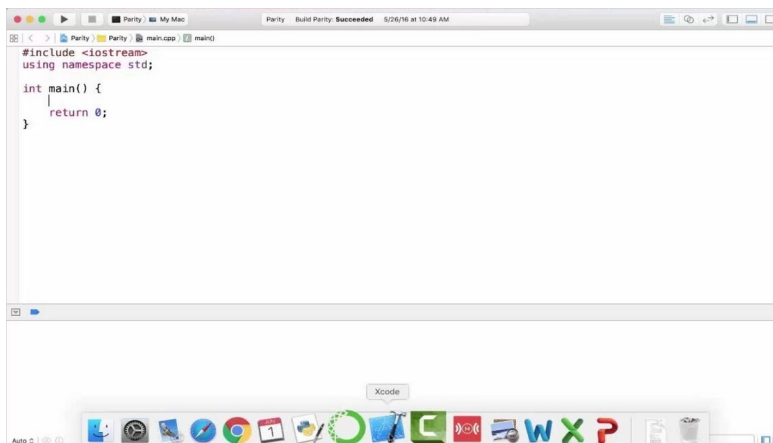
**Example**

Please enter a positive integer:  
7  
7 is odd



Notes:


### 3.4 Determining the Parity Implementation



Notes:

### 3.5 Sequence of if vs. if-else


Sequence of if vs. if-else



```
int main(){
    int userInput;

    cout<<"Please enter a positive integer"<<endl;
    cin>>userInput;


    if(userInput % 2 == 0){
        cout<<userInput<<" is even"<<endl;
    }
    else if(userInput % 2 == 1){
        cout<<userInput<<" is odd"<<endl;
    }
    return 0;
}
```



Notes:

### 3.6 Boolean Interpretation


Boolean Interpretation



```
int main(){
    int val = 0;


    if(val = 0)
        cout<<"val is 0"<<endl;
    else
        cout<<"val is not 0"<<endl;

    return 0;
}
```



Notes:

### 3.7 End of Module



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End of Module

Exit