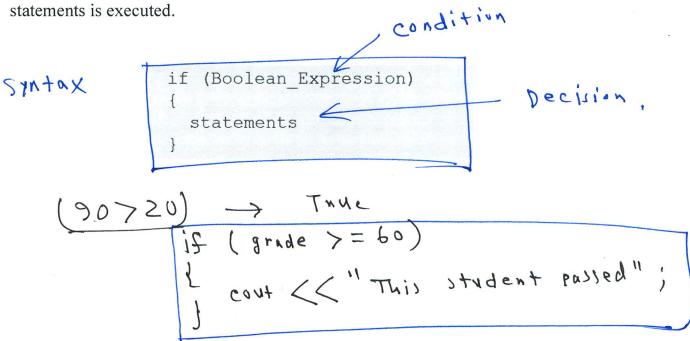
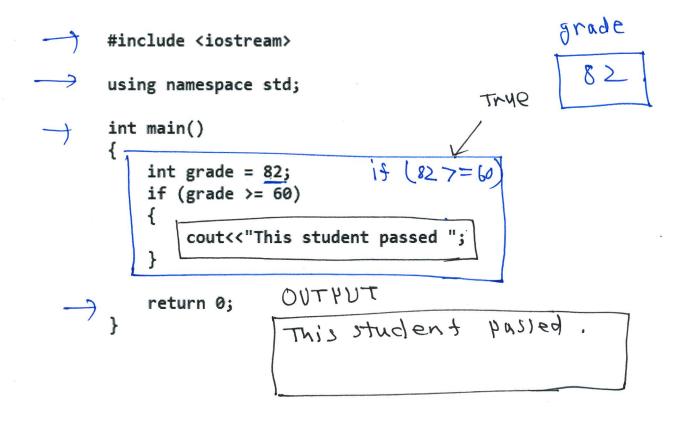
### if Statement

If statement is used to implement decision. When a condition is fulfilled, one set of statements is executed.



Write a program to check a given grade. If the grade value is greater than or equal to 60, program prints "This student passed" on the console window.



Practice Problem 1: Consider the following if statement to compute the discounted price. What is the discounted price if the original price is 90.

Practice Problem 2: Consider the following if statement to compute the discounted price. What is the discounted price if the original price is 100.

#### if -else Statement

If statement is used to implement decision. When a condition is fulfilled, one set of statements is executed. Otherwise, another set of statements is executed.

```
if (Boolean_Expression)
{ statements<sub>1</sub> }
else
{ statements<sub>2</sub> }
```

Write a program to check a given grade. If the grade value is greater than or equal to 60, program prints "This student passed" on the console window. Otherwise, program prints "This student failed" on the console window.

```
#include <iostream>

using namespace std;

int main()
{

int grade = 52;

if (grade >= 60)

{

cout<<"This student passed ";
}
else
{

cout<<"This student failed";
}

return 0;

OVTPUT
}
```

Practice Problem 1. Consider the following if statement to compute the discounted price. What is the discounted price if the original price is 95.

```
int originalPrice = 95, discountedPrice;

if (originalPrice > 100)

{ discountedPrice = originalPrice -20; } discountedPrice else

{ discountedPrice = originalPrice -10; }

95 -10 = 85
```

Practice Problem 2. Consider the following if statement to compute the discounted price. What is the discounted price if the original price is 100.

```
int originalPrice = 95, discountedPrice;

if (originalPrice > 100)
{ discountedPrice = originalPrice -20; }

else
{ discountedPrice = originalPrice -10; }

= 100 - 10; = 90

discountedPrice = 90.
```

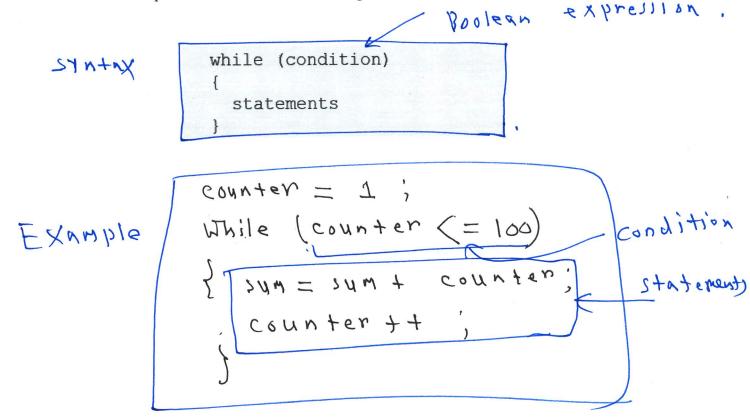
if 
$$(a==b) \rightarrow e^{+}$$
  
 $a=b \rightarrow Math$ 

## **Comparison Operators**

C++	Math Notations	Descriptions
SUMR >	>	Greater than
	(2)	Greater than or equal
SMME <	<	Less than
	(3)	Less than or equal
		Equal
<u>[=</u>	$\neq$	Not equal

# while loop

While loop executes block of code/statement repeatedly until a specific goal is attained. The repetition will continue as long as the condition remains true.



```
++ > increment operator 1+2+3= 6 i++;
A program to calculate summation of first 3 numbers: 1+2+3=?
#include <iostream>
using namespace std;

    int main()
        int sum = 0;
        int counter = 1;
        while (counter <= 3)
          sum = sum + counter ;
         counter++;
        -cout<<"The summation of 1+2+3 is:"<< sum<<endl;</pre>
        return 0;
                                       SUM = 1 + 2 = 3.

SUM = 3 + 3 = 6
```

### while loop Example 1

What is the output of following program (when embedded in a complete program?)

program?)

$$0 < 3 \rightarrow True$$
.

 $1 < 3 \rightarrow True$ .

 $0 < 0 \rightarrow Tr$ 

What is the output of following program (when embedded in a complete program?)

Hemework No. 6 - 10 = 0.1 ICA = 1. E X 0. 1 = 1 E 5  $IC_{B} = 1E_{B} \times 0.2 = 2E_{B}$ ICc = 1 = 5 + 5 = 5 = 5 = 5 ICD = 1E X 0.2 = 2 E5 Q- P1 Clock Rate = 2.5 GHZ Clock Rate = 3.6 GHZ CPU clock cycles = (1E5 X1)+(2E5 X2) + (5E5 X3) + (3 X2E) Average CPI = CPU clock cycles

Instruction count

0

CPU TIME = CPU clock eyele)