



E1123 Computer Programming (a)
(Fall 2020)



Comma, Conditional operators and quiz

INSTRUCTOR

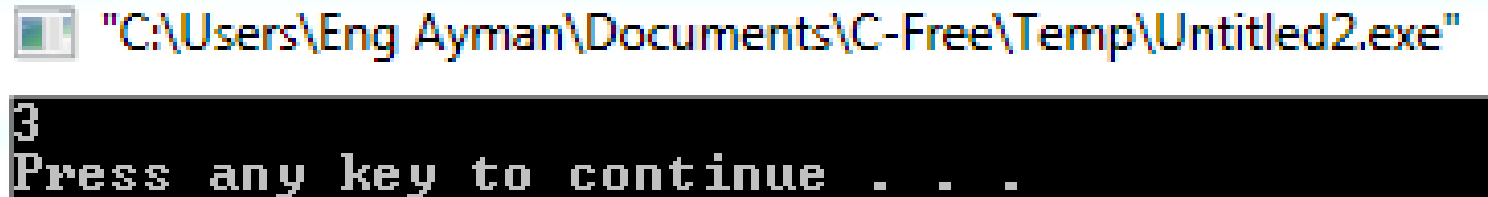
DR / AYMAN SOLIMAN

➤ Comma operator

The **comma** operator allows you to evaluate multiple expressions wherever a single expression is allowed. It evaluates to its rightmost operand.

Operator	Symbol	Form	Operation
Comma	,	x, y	Evaluate x then y, returns value of y

```
#include <iostream.h>
int main()
{
int x = 0;
int y = 2;// increment x and y
int z = (++x, ++y);
cout<<z<<endl;
return 0;
}
```



```
"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled2.exe"
3
Press any key to continue . . .
```

➤ Conditional operator

The conditional operator (?:) (“arithmetic if” operator) is C++’s only ternary operator (it takes 3 operands).

Operator	Symbol	Form	Operation
Conditional	?:	$c ? x : y$	If c is nonzero (true) then evaluate x , otherwise evaluate y

The **?:** operator provides a shorthand method for doing a particular type of **if/else** statement. If/else statements in the following form:

```
if (condition)
    statement
else
    Other_statement
```

can be rewritten as:

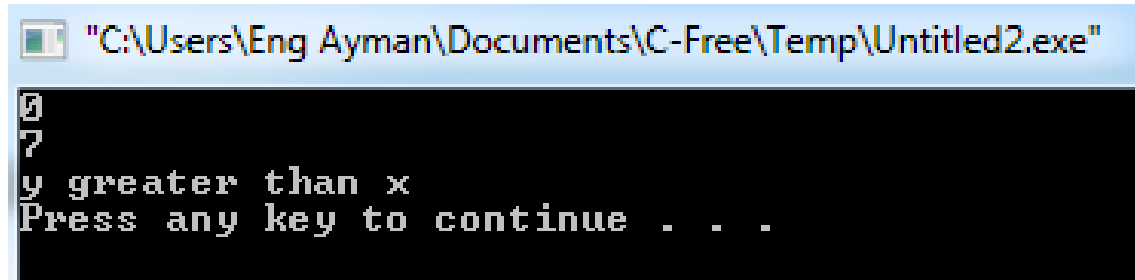
```
(condition) ? expression : other_expression;
```

```
if (x > y)
    larger = x;
else
    larger = y;
```

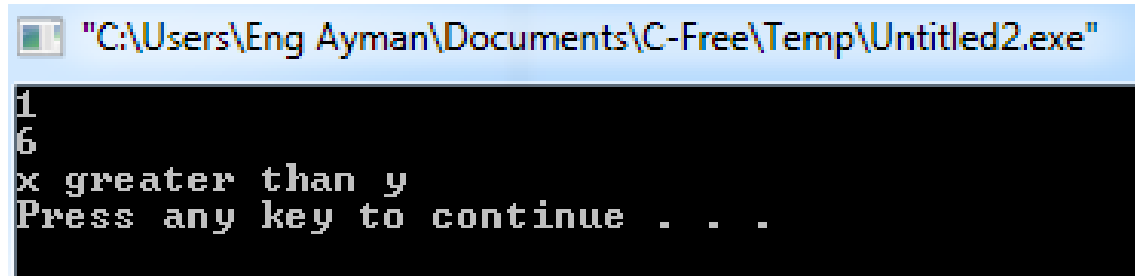
```
larger = (x > y) ? x : y;
```

➤ Example

```
#include <iostream>
using namespace std;
int main()
{
    int x = 2, y=7;
    cout<<(x>y)?x:y;
    cout<<endl;
    cout<<((x>y)?x:y);
    cout<<endl;
    (x>y)?cout<<"x greater than y ":cout<<"y greater than x ";
    cout<<endl;
    return 0;
}
```



```
"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled2.exe"
7
y greater than x
Press any key to continue . . .
```



```
"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled2.exe"
1
6
x greater than y
Press any key to continue . . .
```

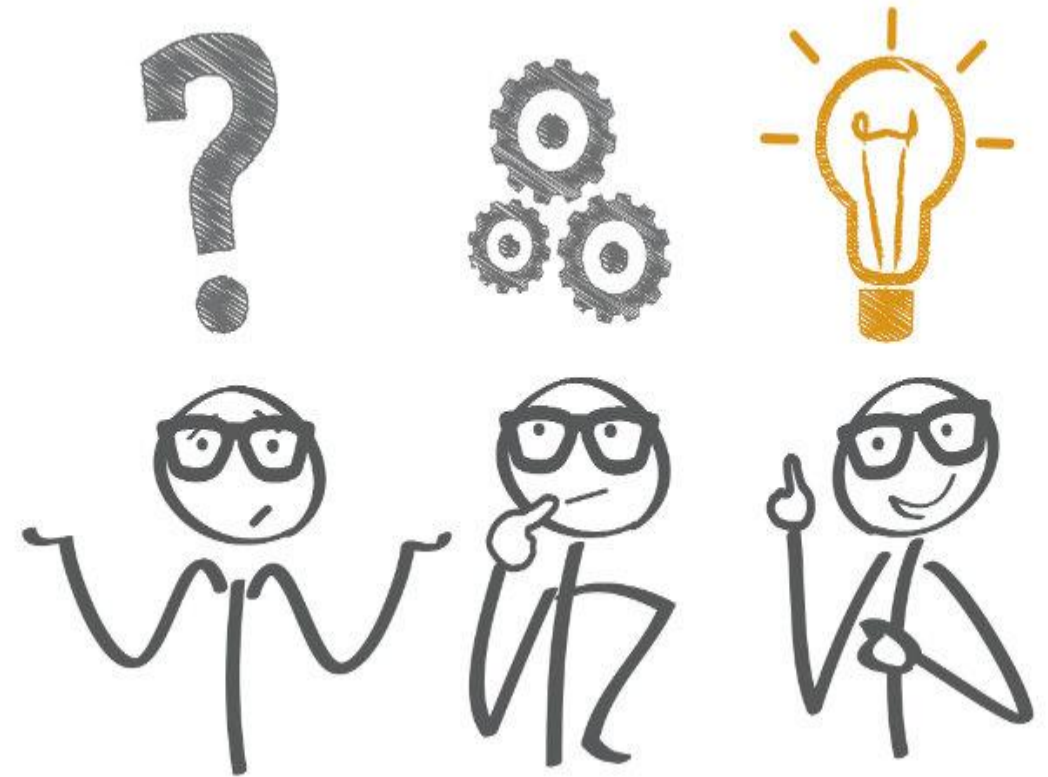
Quiz 1

Write a C++ program to enter a three numbers and print each number individually and in words.

Example

 "D:\courses\c++\2020\my lectures\quiz1.exe"

```
enter the number : 537
5      3      7
five three seven
Press any key to continue . . .
```



```

#include <iostream>
#include <string>
using namespace std;
int main()
{
    int x,a1,a2,b1,c1;
    string a11,b11,c11;
    cout<<"enter the number : ";
    cin>>x;
    a1=x/100;
    a2=x%100;
    b1=a2/10;
    c1=a2%10;
    cout<<a1<<" " <<b1<<" " <<c1<<endl;

    cout<<a11<<" " <<b11<<" " <<c11<<endl;

    return 0;
}

```

```

switch (a1)
{case 0:
  a11="zero";
  break;
 case 1:
  a11="one";
  break;
 case 2:
  a11="two";
  break;
 case 3:
  a11="three";
  break;
 case 4:
  a11="four";
  break;
 case 5:
  a11="five";
  break;
 case 6:
  a11="six";
  break;
 case 7:
  a11="seven";
  break;
 case 8:
  a11="eight";
  break;
 case 9:
  a11="nine";
  break;
}

```

```

switch (b1)
{case 0:
  b11="zero";
  break;
 case 1:
  b11="one";
  break;
 case 2:
  b11="two";
  break;
 case 3:
  b11="three";
  break;
 case 4:
  b11="four";
  break;
 case 5:
  b11="five";
  break;
 case 6:
  b11="six";
  break;
 case 7:
  b11="seven";
  break;
 case 8:
  b11="eight";
  break;
 case 9:
  b11="nine";
  break;
}

```

```

switch (c1)
{case 0:
  c11="zero";
  break;
 case 1:
  c11="one";
  break;
 case 2:
  c11="two";
  break;
 case 3:
  c11="three";
  break;
 case 4:
  c11="four";
  break;
 case 5:
  c11="five";
  break;
 case 6:
  c11="six";
  break;
 case 7:
  c11="seven";
  break;
 case 8:
  c11="eight";
  break;
 case 9:
  c11="nine";
  break;
}

```

Quiz 2

Write a C++ program to enter a three numbers and check if these can be sides of triangle or not.

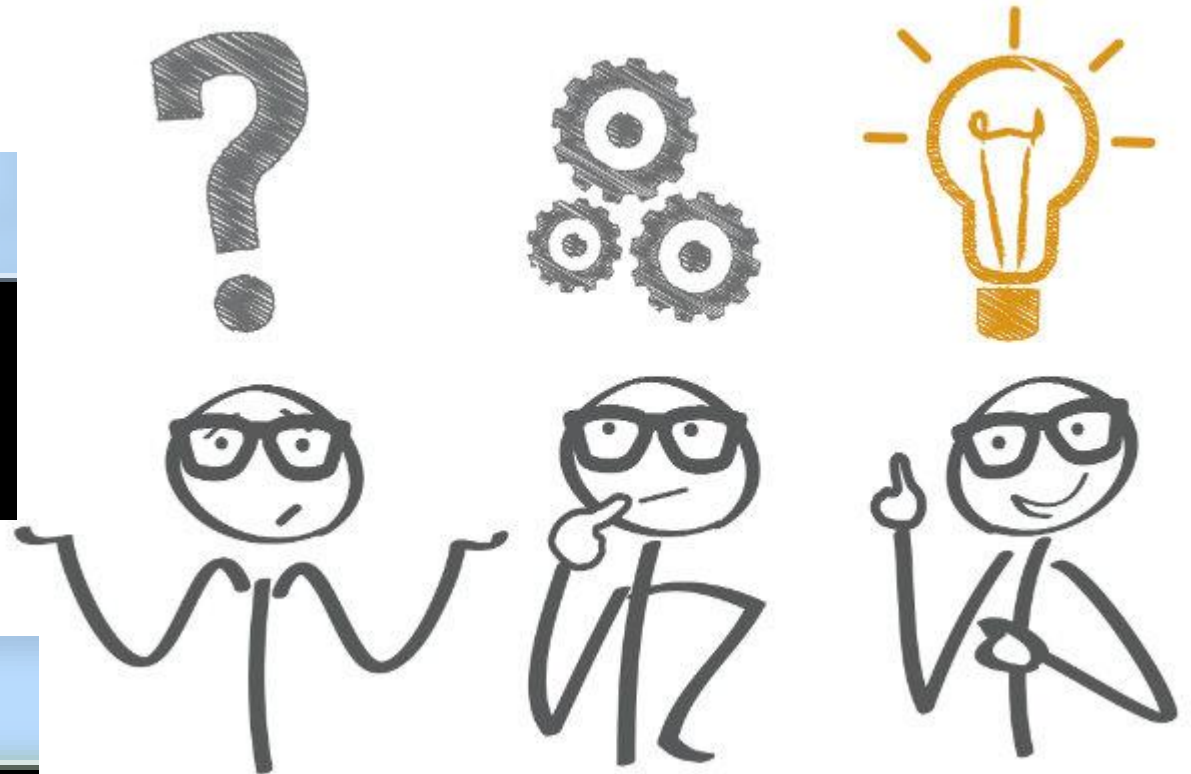
Example

```
"D:\courses\c++\2020\my lectures\quiz1.exe"
```

```
enter three sides : 5 2 4
the sides can be a sides of rectangle.
Press any key to continue . . .
```

```
"D:\courses\c++\2020\my lectures\quiz1.exe"
```

```
enter three sides : 5 2 1
the sides can not be a sides of rectangle.
Press any key to continue . . .
```



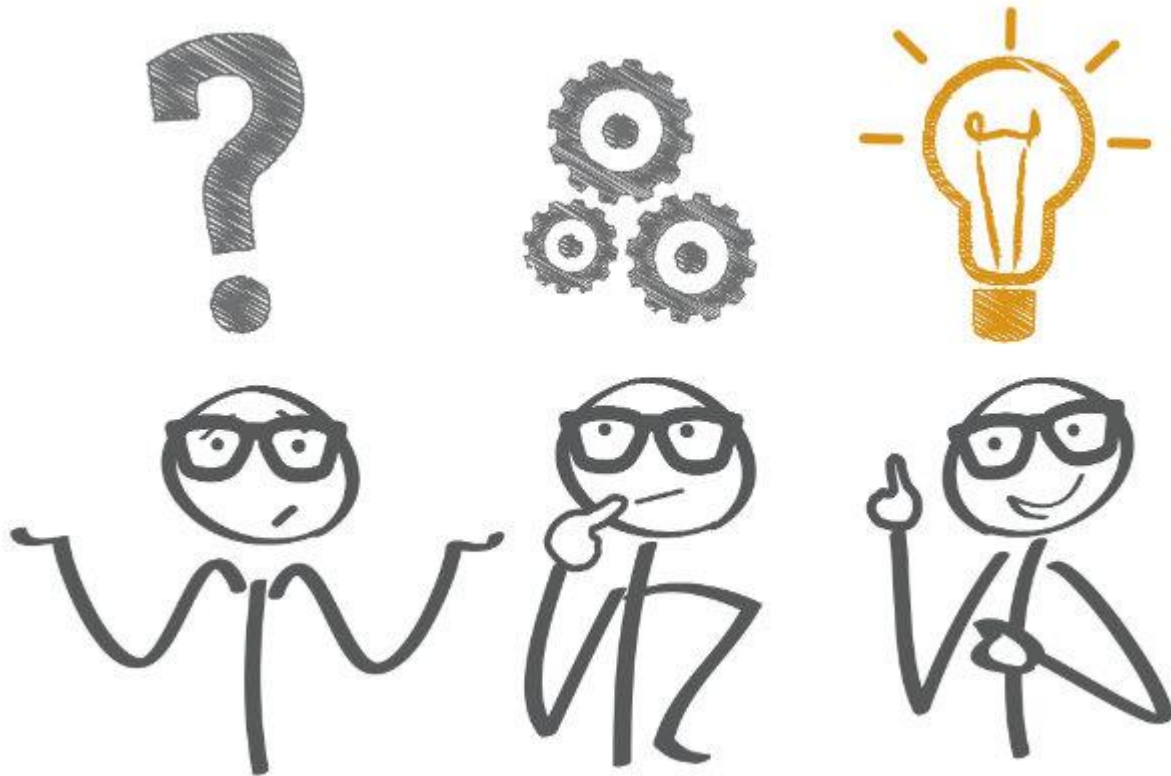
```

#include <iostream.h>
int main()
{
    int x,y,z;
    cout<<"enter three sides : ";
    cin>>x>>y>>z;
    if ((x>=y)&&(x>=z))
    {if (x<(y+z))
    cout<<" the sides can be a sides of rectangle. "<<endl;
    else
    cout<<" the sides can not be a sides of rectangle. "<<endl;
    }
    else if ((y>=x)&&(y>=z))
    {if (y<(x+z))
    cout<<" the sides can be a sides of rectangle. "<<endl;
    else
    cout<<" the sides can not be a sides of rectangle. "<<endl;
    }
    else
    {if (z<(x+y))
    cout<<" the sides can be a sides of rectangle. "<<endl;
    else
    cout<<" the sides can not be a sides of rectangle. "<<endl;
    }
    return 0;
}

```


Quiz 3

Write a C++ program that ask the user to enter the value of two numbers. Then the program checks the values entered, if the two numbers are same print “the same” on the screen and terminates the program, otherwise print “not equal” on the screen and ask the user to enter the two numbers again. The program permits the user to enter unequal numbers for only 3 times then terminates.



Quiz 4

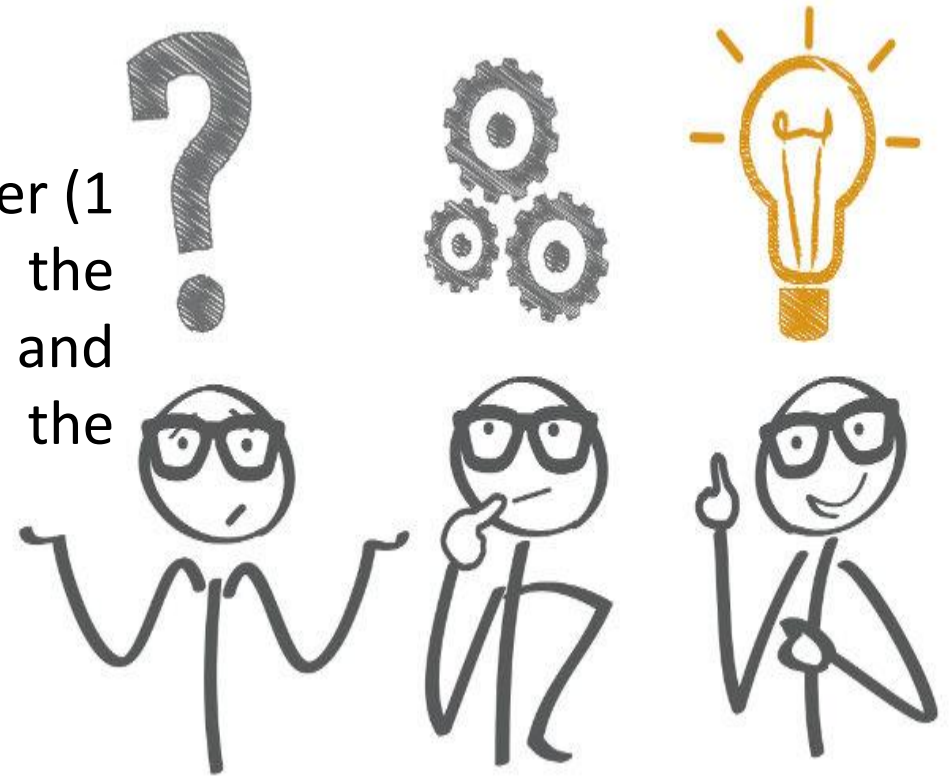
Write a C++ program that displays the following menu:

1. convert from inch to mm
2. convert from mm to inch
3. convert from Km to mile
4. convert from mile to Km

The program should first ask the user to select a converter (1 or 2 or 3 or 4). If for example the user enters 2 then the program will ask the user to “enter the length in mm” and then calculates the length in inch and displays this on the screen “the length in inch =”.

1 inch = 25.4 mm

1 mile = 1.6 Km



Thank

you

