Lab. (4)
Operators and Control Structures

Answer the following questions

Question One:

Write a C++ program that accepts two integers from the user and print them in separate lines

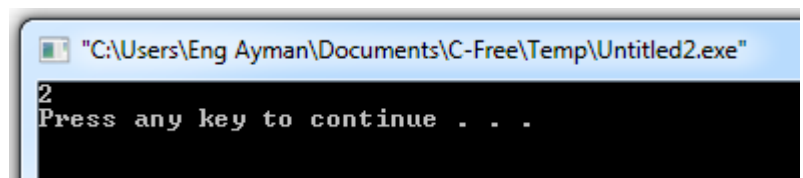then perform the addition of these two numbers.

Question Two:

Write a C++ program to compute the perimeter and area of a circle with a radius of 5 cm.

Question Three:

Trace and find the following programs output

a)
```cpp
#include <iostream.h>

int main()
{
int z;
bool x = true;
bool y = false;
z = x + !y;
cout << z<<endl;
return 0;
}
```
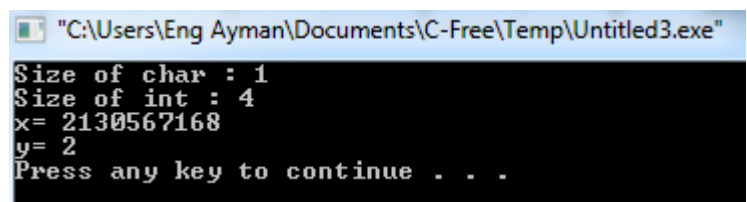

"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled2.exe"

```
2
Press any key to continue . . .
```

b)
```cpp
#include <iostream.h>
int main()

{
int x;
char y='2';
cout << "Size of char : " << sizeof(y) << endl;
cout << "Size of int : "  << sizeof(x) << endl;
cout << "x= " << x << endl;
cout << "y= " << y << endl;
```


"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled3.exe"

```
Size of char : 1
Size of int : 4
x= 2130567168
y= 2
Press any key to continue . . .
```

```
    return 0;

    }
```

c)
```
#include <iostream.h>

int main()

{

int x=3,y=4,z=7,w=1;

cout << "1- x == y: " << (x == y) << endl;

cout << "2- x != z: " << (x != z) << endl;

cout << "3- y == z - 3: " << (y == z - 3) << endl;

cout << "4- !(z > w): " << !(z > w) << endl;

cout << "5- x + y < z: " << (x + y < z) << endl;

return 0;

}
```

"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled3.exe"
```
1- x == y: 0
2- x != z: 1
3- y == z - 3: 1
4- !(z > w): 0
5- x + y < z: 0
Press any key to continue . . .
```

d)
```
#include <iostream.h>

int main()

{

int x=10,y=15,z=20;

cout << "1- !(x > 10): " << !(x > 10) << endl;

cout << "2- x <= 5 || y < 15: " << ((x <= 5) || (y < 15)) << endl;

cout << "3- (x != 5) && (y != z): " << ((x != 5) && (y != z)) << endl;

cout << "4- x >= z || (x + y >= z): " << ((x >= z) || (x + y >= z)) << endl;

cout << "5-(x <= y - 2) && (y >= z) || (z - 2 != 20): " << ((x <= y - 2) && (y >= z) || (z -

2 != 20)) << endl;

return 0;

}
```
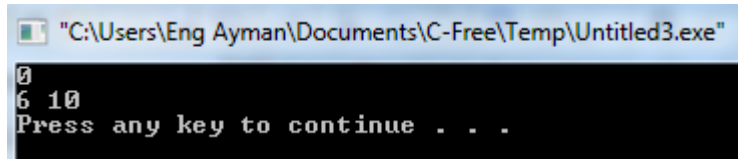
"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled3.exe"
```
1- !(x > 10): 1
2- x <= 5 || y < 15: 0
3- (x != 5) && (y != z): 1
4- x >= z || (x + y >= z): 1
5-(x <= y - 2) && (y >= z) || (z - 2 != 20): 1
Press any key to continue . . .
```

e)
```
#include <iostream.h>

int main()

{

int a;

a = 5 % 2 * 2 + 3 * 5 / 2;

cout << a<<endl;

return 0;
```

"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled3.exe"
```
9
Press any key to continue . . .
```

```
}
```

f)
```cpp
#include <iostream.h>

int main()
{
int x=5, y=4;
cout<< (x < y) <<endl;
y += ++x;
cout << x <<" "<< y<<endl;
return 0;
}
```



```
"C:\Users\Eng Ayman\Documents\C-Free\Temp\Untitled3.exe"
0
6 10
Press any key to continue . . .
```