**CS 101 INTRODUCTION TO COMPUTING**

**MID EXAM, FALL 2014**

**Date: 27th Oct. 2014 Marks:50 Time: 130 minutes**

**Part 01 (Solution)**

**Question # 1 (Points: 2\* 5 = 10)**

**What will be output of following programs? Write in boxes given, any answer not written in boxes will not be marked.**

a.

Output:

False

int main()

{

boolisValid = "True";

int x=5;

if ((x != 5) || !isValid&& ((x == 5 ) &&isValid ))

cout<<"True"<<endl;

else

cout<<"False"<<endl;

return 0;

}

Output:

X = 33

b.

int main()

{

int x = 33 / 5 \* 4 + 3 \* 6 / 2;

cout<<"x = "<<x<<endl;

return 0;

}

c.

Output:

Comparison result = 1

5

Comparison result = 6

6

int main()

{

int x = 5;

cout<<"Comparison Result = "<<(x == 5)<<endl;

cout<<x<<endl;

cout<<"Comparison Result = "<<(x = 6)<<endl;

cout<<x<<endl;

return 0;

}

d.

|  |
| --- |
| void f(int x, int y) |
| {  Output:  in func 22  1 |
| x++; |
| y++; |
| cout<< “in func “ << x << y << ‘\n’; |
| } |
| void main() |
| { |
| int i = 1; |
| f(i,i); |
| cout<<i; |
| } |

e.

Output:

in func 33

3

|  |
| --- |
| void f (int&a, int&b) |
| { |
| x++; |
| y++; |
| cout<< “in func “ << x << y << ‘\n’; |
| } |
| void main() |
| { |
| int i = 1; |
| f(i,i); |
| cout<<i; |
| } |

**Question # 2 (Points: 10)**

**Write the output of the program for the given input values in the Table below.**

int main()

{

int n = 5;

if ( n%2 == 0)

{

for (int i=1;i<=n;i++)

{

for (int j=1;j<=i;j++)

{

cout<< i\*j<<",";

}

cout<<endl;

}

}

else

{

for (int i=1;i<=n;i++)

{

cout<<i\*n<<",";

}

}

return 0;

}

|  |  |
| --- | --- |
| **n** | **Output** |
| **2** | 1,  2,4, |
| **3** | 3,6,9, |
| **4** | 1,  2,4,  3,6,9,  4,8,12,16, |
| **5** | 5,10,15,20,25, |

**Part 02 (Time: 90 Minutes)**

## Important Notes

* Use meaningful variable names.
* Indent your program so that statements inside a block can be distinguished from another block.
* You ARE NOT ALLOWED to use break, continue,goto and exit. You will be awarded a zero in this case.
* Spaghetti code and confusing code is not acceptable.
* Use of internet, cell phones, books, notes and talking to each other is strictly prohibited during exam.
* Submit .cpp file only
  + Submit on Xeon.
  + Submission format YourRollNo.cpp ( e,g L141001.cpp)
  + Wrong File format will result in -1 points.

**Question # 1 (Points: 30)**

Write a C++ function to display an empty rectangle of stars(\*) of width *n* and height (total rows) *n*/2. (*n* should be an even number and a parameter of the function). In function main take *n* as input and call the required function.

For example, if

|  |  |  |
| --- | --- | --- |
| n=6 | n=8 | n=10 |
| \*\*\*\*\*\*  \* \*  \*\*\*\*\*\* | \*\*\*\*\*\*\*\*  \* \*  \* \*  \*\*\*\*\*\*\*\* | \*\*\*\*\*\*\*\*\*\*  \* \*  \* \*  \* \*  \*\*\*\*\*\*\*\*\*\* |

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Best of Luck ☺