

CS111 REVIEW EXERCISE

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In the code below, make sure to read all comments.

If the code following the comments does do what the comments indicate, then there is an error.

For example, the code below has an error since the integer number will not hold the value 2.7. Circle the error and write afterwards the error.

// set i to 2.7

int i = 2.7; i can only be set to a whole number

```
#include "stdafx.h"  
#include <iostream>
```

Section A Syntax and Logic

Circle any errors that you see below and write the error next to it...

```
using name space std1 → namespace std;
```

```
int Func1() → double Func1()
```

```
{  
    double d = 100;  
    return d;  
}
```

```
void Main() → int main()
```

```
{  
    PART 1  
    int a = 0;  
    int a = 8; → cannot declare same variable twice in same scope  
    int A = 9;  
    cout < func1() < end; → spelling should say Func1() and << and >>
```

```
//check to see if a is true
```

```
if (a = 0) → should say if(a==0) one "=" is assignment
```

```
→ not testing for equality
```

```
cout << "a is true"; → if a is 0 then it is false
```

```
int b = 'A';
char c = b;
// display the letter 'A'
cout << b << endl; → displaying the number instead of the character causes
→ to display the number 65
```

```
int x, y, z;
// set x = 10
x = 10 + y + z; → y and z need to be initialized before use otherwise you get
→ a random value for y and z
```

PART 2

```
char hyphen = '-';
int d = 100;
```

```
if (d == 100)
    cout << d << hyphen; → d == 100 so 100 is output
d++;
if (d <= 101)
    cout << d << hyphen; d == 101 so 101 is output
d++;
if (d >= 101)
    cout << d << hyphen; d == 102 so 102 is output
```

```
bool e = 100;
if (e == true) e is true 1 is output
    cout << e;
cout << hyphen << endl;
```

OUTPUT FROM CODE ABOVE

100-101-102-1-

PART 3 Fix the code below

```
int f = -10, g = -20; h = -30; → int f = -10, g = -20, h = -30;
```

```
// multiply sum of f,g,h by 20
```

```
int i = f + g + h * 20; → int i = ( f + g + h ) * 20;
cout << i << endl;
```

}

Section B Logic

What does the code below do?

It returns the whole part of a decimal followed by the fraction portion

For Example input of 1.2 has output of 1 0.2

```
int main()
{
    double d = 56.9;
    int i = 25;
    string s = "Please enter a decimal";
    cout << s << endl;
    cin >> d;
    i = d;
    d -= i;
    cout << i << " " << d;
    return(0);
}
```

//Section C - Coding

// please finish the code segment below

```
int main()
{
    cout << "enter two numbers";
    int a, b;
    cin >> a;
    cin >> b;
    // output the higher number
    // if both are equal output either value
    if(a>b)
        cout << a << endl;
    else
        cout << b << endl;
    return(0);
}
```

Xtra Credit Section D Coding

We have not really covered the while loop but try anyhow

Fix the code below so it works properly

The code below is using a while loop to count all the even and odd numbers that come before the number entered and the number 0.

For example, if the user entered 4, there would be three even numbers including the 4 itself (4,2,0) and two odd number (3,1) so the output would be 3 even and two odd.

If the user entered 5, there would be three odd numbers including the 5 itself (5,3,1) and three even numbers (4,2,0) so the output would be 3 even and 3 odd.

- 1) The code below has at least two bugs please fix
- 2) Fix the code so that it works for negative numbers also

```
int main()
{
    cout << "enter a whole number ";
    int NumEntered;
    cin >> NumEntered;
    int countA = 0;
    int countB = 0;

    // make sure number is positive
    if(NumEntered < 0)
        NumEntered = - NumEntered;

    while (NumEntered >=0)
    {
        if (NumEntered % 0 == 0) → if (NumEntered % 2 == 0)
            countA++;
        else
            countB++;
        NumEntered--;
    }
    cout << "Odd="<<countA <<"Even="<< countB << endl;
    →cout << "Even="<<countA <<"Odd="<< countB << endl;
}
```