

## Assignment 1 Solution

### Question 1 Solution

- a. When x and y are 5 and 3 respectively,  
The code prints out "The values of x and y are respectively 8 and 76".
- b. When x and y are 7 and 4 respectively,  
The code prints out "The values of x and y are respectively 11 and 55".
- c. When x and y are 5 and -1 respectively,  
The code prints out "The values of x and y are respectively 5 and 30".
- d. When x and y are 11 and 12 respectively,  
The code prints out "The values of x and y are respectively 11 and 143".

### Question 2 Solution

The code prints out "Where am I? if the world ended on December 21, 2012."  
Because "if (0)" is false and so C runs the "else" statement and then prints out the "if the world ended on December 21, 2012" right beside it.

### Question 3 Solution

- a.  $3/4 = 0.000000$  because 3 and 4 are integers and so after the division, C truncates the 75 after the decimal place and because the conversion factor (%f) is for a float, the answer would be a float.
- b.  $3.0/4 = 0.750000$  because 3.0 is a float and 4 is an integer, the float has the higher order of precedence and so C does a float division and the result is 0.75 which is put to six decimal place as is common to C.
- c.  $1+2/3+0.4 = 1.400000$  because division is the highest order of precedence in this statement and so C does an integer division between 2 and 3 to give 0, then the 0 is added to 1 to give 1 and the 1 is added to 0.4 and in this case the result is a float 1.4, because floats have higher order of precedence

### Question 4 Solution:

The program should prompt to the user to enter the exam grade and take the response based on the Ottawa U grading systems from ( A+, A.... F).

```
/*---Student Code---*/
/* Name: Mosopefoluwa Oke Student Number: 7742473*/
/* Date: October 9 2015*/
#include <stdio.h>
#include <stdlib.h>
int main()
{
float N;
printf("Please enter your percent grade\n");
scanf("%f", &N);
if (N>=90)
{
printf("Your letter grade is A+\n");
}
else if (N>=85)
{
printf("Your letter grade is A\n");
}
else if (N>=80)
{
printf("Your letter grade is A-\n");
}
else if (N>=75)
{
printf("Your letter grade is B+\n");
}
else if (N>=70)
{
printf("Your letter grade is B\n");
}
else if (N>=65)
{
printf("Your letter grade is C+\n");
}
else if (N>=60)
{
printf("Your letter grade is C\n");
}
else if (N>=55)
{
printf("Your letter grade is D+\n");
}
}
```

```
else if (N>=50)
{
printf("Your letter grade is D\n");
}
else if (N>=40)
{
printf("Your letter grade is E\n");
}
else if (N>=0)
{
printf("Your letter grade is F\n");}
printf("Thank you for using University of Ottawa Grade Calculator. Have a nice day.");
}
```