OOP Lab TEST

Marks: 15

Duration: 90 Minutes (1300 - 1430)

Note:

- Submit code (.exe and .cpp files) within the given time on following link:
  \\csdept\data\Assignments\Lab Engr Nausheen\BESE16B - OOP\Test
- Copy code will be given zero credit

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1. Define a variable **Color** of data type enum. The possible values for **Color** can be Red, Green, Yellow, Orange, Blue, Pink, Black, and White. Inside your main program, ask user to enter his/her favorite color and then display the color name on screen. The output must look like the one given below: **(Marks: 5)**

```
Press y to display the menu and x to exit
y
1: Red
2: Green
3: Yellow
4: Orange
5: Blue
6: Pink
7: Black
8: White
Choose your favorite color: 5
You have chosen the color Blue
Press y to display the menu and x to exit
x
Thank you for using my program!
```

2. In this question, you will deal with some operations on rational numbers. Recall that a number is rational if it can be represented as a fraction ***denom/num***, where both numerator ***num*** and denominator ***denom*** are integers. Your main task is to implement a class named Rational, which contains two private data members **num (of type int)** to represent the numerator and **denom (of type int)** to represent the denominator. The public interface of the class should contain the following functions: **(Marks: 10)**

   a. A default constructor which sets both **num** and **denom** to 1

   b. A 2-argument constructor to initialize **num** and **denom** to values passed in the arguments

c. A function called **RationalToDouble()** which converts a rational number to its equivalent decimal form (a double value) and returns that value e.g., the function when called on an object having the value ¾ should return 0.75

b) Write a main program which has the following interface.

```
0- Quit
1- Enter Rational Number
2- Print Rational Number
3- Convert to Double
Enter your choice: 1
Enter numerator followed by denominator: 4 5
The number is: 4/5
```

Note: Generate an error whenever an attempt is made to set **denom** to 0 or a division by 0 is attempted.