

ESC101 : Fundamental of computing

Quiz 1(B)

25 September, 2008

Name :

Roll no :

Section:

Duration : 15 minutes

Question 1 Fill in the blanks the method `IsPrime` whose parameter is a positive integer of type `int`, and it returns true if the number is prime and returns false if the number is not prime.

```
public static _____ IsPrime(_____ n)
{
    _____ t = _____ ;

    boolean flag = _____ ;

    while(t*t _____ n && _____)
    {
        if(_____) flag = false;

        _____;
    }
    if(_____) return false;

    else return true;
}
```

Question 2. We want to create a class `Box`. The attributes of a box are its length, breadth, and width. It should have two constructors :

`Box(double x)` : to construct a `Box` with its length, breadth and width equal to `x`.

`Box(double x, double y, double z)` : to construct a `Box` with length `x`, breadth `y`, and width `z`.

Note : you may assume that the constructor is called with appropriate arguments such that the resulting box has length greater than or equal to both its breadth as well as its width.

You have to design a method `Volume()` which returns volume of the current box. You also have to design a method `CanEnclose(Box B)` which returns true if the current `Box` can enclose the `Box B` completely. Please fill in the blanks the following description of `Box` class. **You have to ensure that once a `Box` is created it should not be possible to change its length, breadth and width.**

```
public class Box
{
    _____ double length;

    _____ double breadth;

    _____ double width;

    public Box(double x) {_____}

    public Box(double x, double y, double z)
    {_____}

    public double Volume() {_____}

    public boolean CanEnclose(Box B)
    {
        if(_____) return true;

        else return false;
    }
}
```