ESC101 : Fundamental of computing

Quiz 3(A) **6 November, 2008**

Name :

Roll no : **Section:**

Duration : 20 minutes

NOTE : There are TWO questions, flip the front page to read the second question

Question 1 (marks=5)

What is output of the following program ?

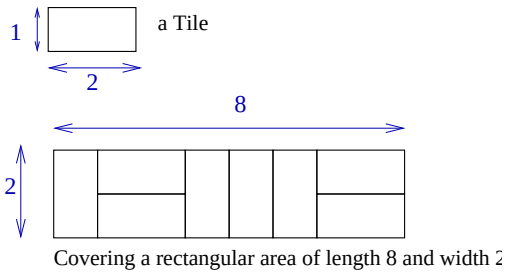
```
class fun1
{   public static void fun(int n, String S)
    {
        if(n==0) System.out.println("[-"+S+"]");
        else
        { fun(n-1,S+","+n);
          if(n>1) fun(n/2,S+","+(n-2));
        }
    }

    public static void main(String args[])
    {
       fun(4,"");
    }
}
```

Answer :

Question 2 (marks=5)

We have a large collections of identical rectangular 2×1 tiles (length of each tile is 2 units and width is 1 unit). We want to cover a given $2 \times n$ rectangular area using these tiles. A tile may be placed horizontally or vertically while covering an area. There may be various possible ways to do so. For example, Figure given below gives one possible covering of a 2×8 rectangular area by the tiles.



Covering a rectangular area of length 8 and width 2

You have to write a method `PossibleTilings (int n)` which counts the number of ways to cover a $2 \times n$ rectangular area using the 2×1 tiles. Assume that n takes positive value only.

```
public static int PossibleTilings(int n)
{

}
```