

ESC101 : Fundamental of computing

Quiz 3(B)

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 ?

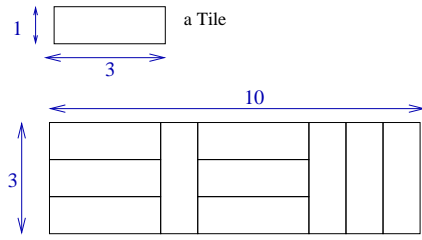
```
class fun2
{   public static void fun(int n, String S)
    {
        if(n==1) System.out.println("[-"+S+"]");
        else
        { fun(n-1,S+", "+n);
          if(n>2) fun(n-2,S+", "+(n-2));
        }
    }

    public static void main(String args[])
    {
        fun(5, "");
    }
}
```

Answer :

Question 2 (marks=5)

We have a large collection of identical rectangular 3×1 tiles (length of each tile is 3 units and width is 1 unit). We want to cover a given $3 \times n$ 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 3×10 rectangular area by the tiles.



Covering a rectangular area of width 3 and length 10

You have to write a method `PossibleTilings (int n)` which counts the number of ways to cover a $3 \times n$ rectangular area using the 3×1 tiles. Assume that n takes positive values only.

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

```
}
```