Name _____ Period_____

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1. The WordScrambler class below prompts the user for a word using a Scanner. The program then selects a random letter in the word and scrambles the word by selecting the random letter and all the letters that follow and placing them in front, followed by the letters that come before the random letter. The final word is printed to the console in all caps.

Consider the following examples.

User input	Random Letter	Output
Giraffe	a	AFFEGIR
School	l	LSCHOO
Timberline	t	TIMBERLINE
Halloween	e	ENHALLOWE

Below is a summary of what the WordScrambler class does,

- Declares a Scanner object
- Prompts the user for a word
- Selects a random letter from the word
- Creates a scrambled word by selecting the letter and all the letters that follow and placing them in front, followed by the letters that come before the random letter
- Prints the random word to the console

Write the WordScrambler class below. You need not indicate the imports required of the Scanner object.

```java
public class WordScrambler{

    public static void main(Strings args[]){



        Scanner sc = new Scanner(System.in);
        System.out.println("Give me a word");
        String word = sc.next();
        int randLoc = (int)(Math.random()*word.length());
        String firstHalf = word.substring(0,randLoc);
        String secondHalf = word.substring(randLoc);
        String scrambledWord = (secondHalf+firstHalf).toUpperCase();
        System.out.println(scrambledWord);








    }
}
```

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2. The Dice class below prompts the user for two integers between 4 (inclusive) and 12 (inclusive). The numbers provided correspond to the number of sides on a given die. The dice simulates the rolling of the dice by generating a random number for each die in the range of 1 through the number provided. The random numbers generated are then printed to the console. Consider the following examples.

Input for die 1	Input for die 2	Output
5	10	You rolled a 3 and a 10
4	6	You rolled a 4 and a 1
8	12	You rolled a 4 and a 6

Below is a summary of what the Dice class does,

- Declares a Scanner object
- Prompts the user for two integers
- Creates two random numbers based on the integers provided in the range of 1 (inclusive) up to the integer provided (inclusive)
- Prints the random numbers to the console.

Write the Dice class below. You need not indicate the imports required of the Scanner object.

```java
public class Dice{

    public static void main(Strings args[]){


        System.out.println("Give me an integer (4 - 12)");
        int num1 = sc.nextInt();
        System.out.println("Give me another integer (4 - 12)");
        int num2 = sc.nextInt();
        int roll1 = (int)(Math.random()*num1+1);
        int roll2 = (int)(Math.random()*num2+1);

        System.out.println("You rolled " + roll1 + " and " + roll2);






    }
}
```

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3. Indicate whether each of the following is legal (L) or illegal (I). If it is illegal explain. Assume each uses the Scanner object declared below,

```
Scanner s = new Scanner(System.in);
```

`System.out.println("How old are you?");` `int age = s.nextInt();//user inputs "sixteen"`	**I; The word sixteen is a String, the program is expecting an int**
`System.out.println("How tall are you?");` `int height = s.nextInt();//user inputs 5'7"`	**I; The input is 5'7" which is a String, the program is expecting an int**
`System.out.println("How old are you?");` `int age = s.nextInt();//user inputs 17`	**L**
`System.out.println("How old are you?");` `String age = s.next();//user inputs 15`	**L; but the 15 will be stored as a String**
`System.out.println("What is your name");` `String name = s.next();//user inputs "Lady Gaga"`	**L; but only Lady will be stored**
`System.out.println("What is your name");` `String name = s.nextLine();//userinputs "Lady Gaga"`	**L**
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