Chapter 7 Practice Set Questions by Munawar

Questions

1. Write a java method to print multiplication table of a number n.

Solution

```
import javax.swing.plaf.synth.SynthTextAreaUI;
import java.util.Scanner;
public class Main {

    static void table(int n){
        for (int i=1;i<=20;i++){
            System.out.format("%d X %d =%d \n",n,i,n*i);
        }
    }
    public static void main(String[] args) {
        //Question 1
        table(5);
    }

}
```

2. Write a program using functions to print the following pattern.

*

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*****

Solution

```
static void pattern(){
    for (int i=0;i<=6;i++){
        for (int j=0;j<=i;j++){
            System.out.print("*");
        }
        System.out.println("\n");
    }
}
```

```
        //Question 2
        pattern();
```

3. Write a recursion function to calculate sum of first n natural numbers.

Solution

```
// Question 3 method
static int sumN(int n){
    if(n==1){
        return 1;
    }
    else {
        return n+sumN(n-1);
    }
}
```

```
// Question 3
int s=sumN(5);
System.out.println("The sum of 5 is : "+s);
```

4. Write a program using functions to print the following pattern.

*****

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***

**

*

Solution

```
// Question 4
static void negativePattern(){
    for(int i=1 ;i<=10;i++){
        for(int j=10;j>=i;j--){
```

```
            System.out.print("*");
        }
        System.out.println();
    }
}
```

```
// Question 4
negativePattern();
```

5. Write a function to find average nth term of Fibonacci series using recursion.

Solution

```
// Question 5 fibonacci series
static int fibonacci(int n){
    if (n==1){
        return 0;
    }
    else if(n==2){
        return 1;
    }
    else {
        return fibonacci(n-1)+fibonacci(n-2);
    }
}
```

```
// Question 5
System.out.println("The result of 1 is :"+fibonacci(7));
```

6. Write a Function to find average of a set of numbers passed as arguments.

Solution

```
#Self for me using variable argument concept.
```

7. Repeat Question 4 using Recursion.

Solution

Self Question

8. Repeat Question 2 using Recursion.

Solution

```
// Question 8
static void pattern1_rec(int n){
    if(n>0){
        pattern1_rec(n-1);
        for(int i=0;i<n;i++){
            System.out.print("*");
        }
        System.out.println();
    }
}
```

```
// Question 8
pattern1_rec(5);
```

9. Write a function to convert Celsius temperature into Fahrenheit.

Solution

Self-Question

10. Repeat Question 3 using iterative approach.

Solution

Self-Question

Source code:

```
import javax.swing.plaf.synth.SynthTextAreaUI;
import java.util.Scanner;
public class Main {
// Question 1 method
//    static void table(int n){
//        for (int i=1;i<=20;i++){
//            System.out.format("%d X %d =%d \n",n,i,n*i);
//        }
//    }

//    //Question 2 method
//    static void pattern(){
```

```
//         for (int i=0;i<=6;i++){
//             for (int j=0;j<=i;j++){
//                 System.out.print("*");
//             }
//             System.out.println("\n");
//         }
//     }


//     // Question 3 method
//     static int sumN(int n){
//         if(n==1){
//             return 1;
//         }
//         else {
//             return n+sumN(n-1);
//         }
//     }
//
//     // Question 4
//     static void negativePattern(){
//         for(int i=1 ;i<=10;i++){
//             for(int j=10;j>=i;j--){
//                 System.out.print("*");
//             }
//             System.out.println();
//         }
//     }


//     // Question 5 fibonacci series
//     static int fibonacci(int n){
//         if (n==1){
//             return 0;
//         }
//         else if(n==2){
//             return 1;
//         }
//         else {
//             return fibonacci(n-1)+fibonacci(n-2);
//         }
//     }



//     // Question 8
//     static void pattern1_rec(int n){
//         if(n>0){
//             pattern1_rec(n-1);
//             for(int i=0;i<n;i++){
//                 System.out.print("*");
//             }
//             System.out.println();
//         }
//     }
```

```
    public static void main(String[] args) {
//        //Question 1
//        table(5);
//
//        //Question 2
//        pattern();


//        // Question 3
//        int s=sumN(5);
//        System.out.println("The sum of 5 is : "+s);

//        // Question 4
//        negativePattern();



//        // Question 5
//        System.out.println("The result of 1 is :"+fibonacci(7));

//
//        // Question 8
//        pattern1_rec(5);


    }

}
```

Thank You