Lab 11

Make a class having four functions for determining,

• Whether the input integer is odd.

• Whether the input integer is even.

• Whether the input integer is prime.

• For calculating the factorial of that input integer. Write their test cases and execute them in a single test suite class. Follow all the steps mentioned above in the manual.

CODE:

```
public class Main {

    public static boolean isOdd(int n) {
        return n % 2 != 0;
    }

    public static boolean isEven(int n) {
        return n % 2 == 0;
    }

    public static boolean isPrime(int n) {
        if (n <= 1)
            return false;

        for (int i = 2; i <= Math.sqrt(n); i++) {
            if (n % i == 0)
                return false;
        }
        return true;
    }

    public static long factorial(int n) {
        long fact = 1;
        for (int i = 1; i <= n; i++) {
            fact *= i;
        }
        return fact;
    }

    public static void main(String[] args) {
```

```
        return n % 2 == 0;
    }

    public static boolean isPrime(int n) {
        if (n <= 1)
            return false;

        for (int i = 2; i <= Math.sqrt(n); i++) {
            if (n % i == 0)
                return false;
        }
        return true;
    }

    public static long factorial(int n) {
        long fact = 1;
        for (int i = 1; i <= n; i++) {
            fact *= i;
        }
        return fact;
    }

    public static void main(String[] args) {
        System.out.println(isOdd(7));
        System.out.println(isEven(10));
        System.out.println(isPrime(11));
        System.out.println(factorial(5));
    }
}
```

OUTPUT:

```
true
true
true
120
```

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