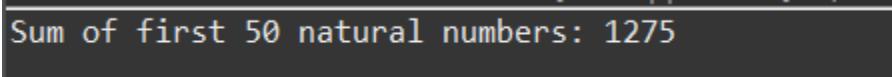



```
class Q1SumOfNaturalNumbers {  
    public static void main(String[] args) {  
        int sum = 0;  
        for (int i = 1; i <= 50; i++) {  
            sum += i;  
        }  
        System.out.println("Sum of first 50 natural numbers: " + sum);  
    }  
}
```



```
Sum of first 50 natural numbers: 1275
```

```
class Q2FactorialOfTen {  
    public static void main(String[] args) {  
        long factorial = 1; // Use long to avoid integer overflow  
        for (int i = 1; i <= 10; i++) {  
            factorial *= i;  
        }  
        System.out.println("Factorial of 10: " + factorial);  
    }  
}
```



```
Factorial of 10: 3628800
```

```
class Q3MultiplesOfSeven {  
    public static void main(String[] args) {  
        System.out.println("Multiples of 8 between 1 and 100:");  
    }  
}
```

```

    for (int i = 8; i <= 100; i += 7) {
        System.out.print(i + " ");
    }

    System.out.println(); // Add a newline at the end
}
}

```

```

Multiples of 8 between 1 and 100:
8 15 22 29 36 43 50 57 64 71 78 85 92 99

```

```

class Q4ReverseDigits {
    public static void main(String[] args) {
        int num = 1234;
        int reversedNum = 0;

        while (num != 0) {
            int digit = num % 10; // Get the last digit
            reversedNum = reversedNum * 10 + digit; // Build the reversed number
            num /= 10; // Remove the last digit
        }

        System.out.println("Reversed number: " + reversedNum);
    }
}

```

```

Reversed number: 4321

```

```

class Q5FibonacciSequence {
    public static void main(String[] args) {
        int a = 0, b = 1;
        System.out.print("Fibonacci sequence up to 21: ");
        while (a <= 21) {
            System.out.print(a + " ");
            int next = a + b;
            a = b;
            b = next;
        }
        System.out.println();
    }
}

```

```
Fibonacci sequence up to 21: 0 1 1 2 3 5 8 13 21
```

```

class Q6FirstFivePrimes {
    public static void main(String[] args) {
        System.out.println("First 5 prime numbers:");
        int count = 0;
        int num = 2; // Start checking from 2

        while (count < 5) {
            boolean isPrime = true;
            for (int i = 2; i * i <= num; i++) {
                if (num % i == 0) {
                    isPrime = false;
                    break;
                }
            }
        }
    }
}

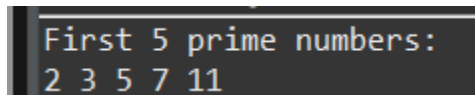
```

```

    }
}

    if (isPrime) {
        System.out.print(num + " ");
        count++;
    }
    num++;
}
System.out.println();
}
}

```



```

First 5 prime numbers:
2 3 5 7 11

```

```

class Q7SumOfDigits {
    public static void main(String[] args) {
        int num = 9656;
        int sum = 0;

        while (num != 0) {
            int digit = num % 10;
            sum += digit;
            num /= 10;
        }

        System.out.println("Sum of the digits: " + sum);
    }
}

```

```
Sum of the digits: 26
```

```
class Q8CountDown {  
    public static void main(String[] args) {  
        System.out.println("Counting down from 10 to 0:");  
        for (int i = 10; i >= 0; i--) {  
            System.out.print(i + " ");  
        }  
        System.out.println();  
    }  
}
```

```
Counting down from 10 to 0:  
10 9 8 7 6 5 4 3 2 1 0
```

```
class Q9LargestDigit {  
    public static void main(String[] args) {  
        int num = 4825;  
        int largest = 0;  
  
        while (num != 0) {  
            int digit = num % 10;  
            if (digit > largest) {  
                largest = digit;  
            }  
            num /= 10;  
        }  
    }  
}
```

```
        System.out.println("Largest digit: " + largest);
    }
}
```

```
Largest digit: 8
```

```
public class Q10EvenNumbers {
    public static void main(String[] args) {
        System.out.println("Even numbers between 1 and 50:");
        for (int i = 2; i <= 50; i += 2) {
            System.out.print(i + " ");
        }
        System.out.println();
    }
}
```

```
Even numbers between 1 and 50:
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
```

```
class Q11IncrementDecrementDemo {
    public static void main(String[] args) {
        int a = 5;
        int b = 10;
        int result = ++a + b--;

        System.out.println("a = " + a);
        System.out.println("b = " + b);
        System.out.println("result = " + result);
    }
}
```

```
}
```

```
a = 6  
b = 9  
result = 16
```

```
class Q12StarPattern1 {  
    public static void main(String[] args) {  
        for (int i = 0; i < 5; i++) {  
            for (int j = 0; j < 5; j++) {  
                System.out.print("*");  
            }  
            System.out.println();  
        }  
    }  
}
```

```
*****  
*****  
*****  
*****  
*****
```

```
public class Q13Pattern13 {  
    public static void main(String[] args) {  
        // Ascending pattern  
        for (int i = 1; i <= 5; i++) {  
            for (int j = 1; j <= i; j++) {  
                System.out.print(i);  
                if (j < i) {
```

```

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

System.out.println();
}

// Descending pattern
for (int i = 5; i >= 1; i--) {
    for (int j = 1; j <= i; j++) {
        System.out.print(i);

        if (j < i) {
            System.out.print(" ");
        }
    }

    System.out.println();
}
}
}

```

```

1
2*2
3*3*3
4*4*4*4
5*5*5*5*5
5*5*5*5*5
4*4*4*4
3*3*3
2*2
1

```

```

public class Q14Pattern14 {
    public static void main(String[] args) {

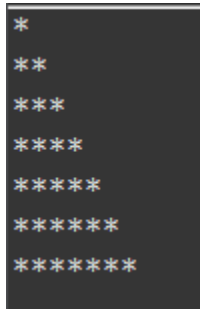
```



```

for (int i = 1; i <= 7; i++) {
    for (int j = 0; j < i; j++) {
        System.out.print("*");
    }
    System.out.println();
}
}
}

```



```

*
**
***
****
*****
*****
*****

```

```

class Q15Pattern {
    public static void main(String[] args) {
        int rows = 5;

        for (int i = 1; i <= rows; i++) {

            for (int j = 1; j <= rows - i; j++) {
                System.out.print(" ");
            }

            for (int k = 1; k <= i; k++) {
                System.out.print("*");
            }
        }
    }
}

```

```

        if (k < i) {

            System.out.print(" ");

        }

    }

    System.out.println();

}

}

```



```

class Q16Pattern {

    public static void main(String[] args) {

        int rows = 5;

        for (int i = 1; i <= rows; i++) {

            for (int j = 1; j <= rows - i; j++) {

                System.out.print(" ");

            }

            for (int k = 1; k <= 2 * i - 1; k++) {

                System.out.print("*");

            }

        }

    }

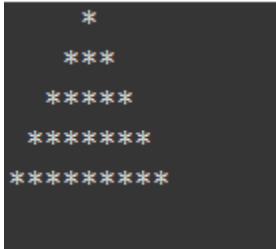
}

```

```

        System.out.println();
    }
}
}

```



```

class Q17UpsidedownPyramidPattern {
    public static void main(String[] args) {
        int rows = 5;

        for (int i = rows; i >= 1; i--) {

            int spaces = rows - i;

            for (int j = 1; j <= spaces; j++) {

                System.out.print(" ");
            }

            for (int k = 1; k <= i; k++) {

                System.out.print("*");

                if (k < i) {

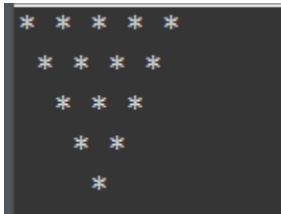
```

```

        System.out.print(" ");
    }
}

// Move to the next line to replicate above steps for the remaing rows
System.out.println();
}
}
}

```



```

class Q18DiamondPattern {
    public static void main(String[] args) {
        int rows = 5;

        for (int i = 1; i <= rows; i++) {

            for (int j = 1; j <= rows - i; j++) {
                System.out.print(" ");
            }

            for (int k = 1; k <= 2 * i - 1; k++) {
                System.out.print("*");
            }

            System.out.println();
        }
    }
}

```

```
}
```

```
for (int i = rows - 1; i >= 1; i--) {
```

```
    for (int j = 1; j <= rows - i; j++) {
```

```
        System.out.print(" ");
```

```
    }
```

```
    for (int k = 1; k <= 2 * i - 1; k++) {
```

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

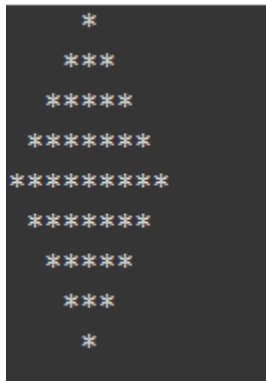
```
    }
```

```
    System.out.println();
```

```
}
```

```
}
```

```
}
```



```

    *
   ***
  *****
 *****
*****
 *****
  *****
   ***
    *
```

```
public class Q19Pattern19 {
```

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

```
        for (int i = 1; i <= 5; i++) {
```

```
            for (int j = 1; j <= i; j++) {
```

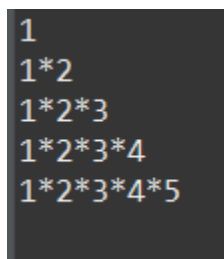
```
                System.out.print(j);
```

```

        if (j < i) {
            System.out.print("*");
        }
    }

    System.out.println();
}
}
}

```



```

1
1*2
1*2*3
1*2*3*4
1*2*3*4*5

```

```

class Q20Pattern20 {
    public static void main(String[] args) {
        for (int i = 5; i >= 1; i--) {
            for (int j = 5; j >= i; j--) {
                System.out.print(j);

                if (j > i) {
                    System.out.print("*");
                }
            }

            System.out.println();
        }
    }
}

```

```
5
5*4
5*4*3
5*4*3*2
5*4*3*2*1
```

```
class Q21Pattern21 {
    public static void main(String[] args) {
        for (int i = 1; i <= 5; i++) {
            int num = 1; // Reset num for each row
            for (int j = 1; j <= i; j++) {
                System.out.print(num);

                if (j < i) {
                    System.out.print("*");
                }

                num += 2; // Increment by 2
            }
            System.out.println();
        }
    }
}
```

```
1
1*3
1*3*5
1*3*5*7
1*3*5*7*9
```

```
class Q22Pattern22 {
    public static void main(String[] args) {
```

```

for (int i = 9; i >= 1; i -= 2) {
    for (int k = 0; k < (9 - i) / 2; k++) {
        System.out.print(" ");
    }
    for (int j = 0; j < i; j++) {
        System.out.print("*");
    }
    System.out.println();
}

```

```

for (int i = 3; i <= 9; i += 2) {
    for (int k = 0; k < (9 - i) / 2; k++) {
        System.out.print(" ");
    }
    for (int j = 0; j < i; j++) {
        System.out.print("*");
    }
    System.out.println();
}
}

```

```

}

```

```

*****
*****
****
***
*
***
****
*****
*****
*****

```



```

class Q23Pattern23 {
    public static void main(String[] args) {
        for (int i = 1; i <= 5; i++) {
            for (int j = 0; j < 5; j++) {
                System.out.print(i);
            }
            System.out.println();
        }
    }
}

```

```

11111
22222
33333
44444
55555

```

```

class Q24Pattern24 {
    public static void main(String[] args) {
        for (int i = 1; i <= 5; i++) {
            for (int j = 0; j < i; j++) {
                System.out.print(i);
            }
            System.out.println();
        }
    }
}

```

```
1
22
333
4444
55555
```

```
class Q25Pattern25 {
    public static void main(String[] args) {
        for (int i = 1; i <= 5; i++) {
            for (int j = 1; j <= i; j++) {
                System.out.print(j);
            }
            System.out.println();
        }
    }
}
```

```
1
12
123
1234
12345
```

```
class Q26Pattern26 {
    public static void main(String[] args) {
        int num = 1;
        for (int i = 1; i <= 5; i++) {
            for (int j = 1; j <= i; j++) {
                System.out.print(num + " ");
            }
        }
    }
}
```

```
        num++;  
    }  
    System.out.println();  
}  
}
```

```
1  
2 3  
4 5 6  
7 8 9 10  
11 12 13 14 15
```