

1. A pentagonal number is defined as $n(3n - 1)/2$ for $n = 1, 2, \dots$ and so on. Therefore, the first few numbers are 1, 5, 12, 22, Write a method with the following header that returns a pentagonal number:

```
public static int getPentagonalNumber(int n)
```

2. Write a method that computes the sum of the digits in an integer. Use the following method header:

```
public static int sumDigits(long n)
```

3. Write the methods with the following headers

```
public static int reverse(int number)
public static boolean isPalindrome(int number)
```

Use the **reverse** method to implement **isPalindrome**. A number is a palindrome if its reversal is the same as itself. Write a test program that prompts user to enter an integer and reports whether the integer is a palindrome.

4. Write a method with the following header to display three numbers in increasing order.

```
public static void displaySortedNumbers(double num1, double num2, double num3)
```

Write a test program that prompts user to enter three numbers and invokes the method to display them in increasing order.

5. Write a method that prints the first n Fibonacci sequence numbers. The Fibonacci sequence is the series of numbers: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, The next number is found by adding up the two numbers before it.
6. Write a method that finds if a given number is prime or not. Write another method that prints prime numbers up to given number and number of prime numbers up to that number.