1. **AverageOnTheGo**

Write a ConsoleProgram named *AverageOnTheGo* that reads *N* numbers from the user, and each time a number is input, prints the accumulated total and the average so far. *N* should be defined as a constant.

![Screenshot of AverageOnTheGo](image1.png)

2. **AverageOnTheGo (v.2)**

Modify *AverageOnTheGo* program from the previous problem to stop reading input when the user enters -1.

3. **Factorial**

Write a ConsoleProgram named *Factorial* that asks the user to enter a number *N*, and then prints the value of *N*! as well as the definition of *N*! (that is, \(1 \times 2 \times 3 \times ... \times N\)) as shown below.

![Screenshot of Factorial](image2.png)

4. **Divisibles**

Write a ConsoleProgram named *Divisibles* that asks the user to enter a number *N*, and then prints all the integers from 1 to *N* (inclusive) that are divisible by 2 or 7.

![Screenshot of Divisibles](image3.png)
Extra Challenge: Attempt the following questions when you feel comfortable with the questions above.

5. Parabola

Write a GraphicsProgram named Parabola that uses a for-loop to generate a picture similar to the following:

![Parabola Diagram]

There should be \( N \) points on each edge, where \( N \) is a constant.

6. AnimatedBall

Write a GraphicsProgram named AnimatedBall in which a red ball moves from the top edge to the bottom, then moves back to its original location. The ball should be horizontally centered. Use the getWidth(), getHeight() methods to align the ball instead of using integer constants.

![AnimatedBall Diagram]

Can you make the ball move up and down forever?