**Содержание урока**

1. [Условные операторы](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/2?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)
2. [Циклы](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/3?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)
3. [Операторы break и continue](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/4?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)
4. [Оператор return](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/5?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)
5. [Вопрос](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/6?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)
6. [Вопрос](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/7?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)
7. [Задача](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/8?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)
8. [Задача](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/9?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)
9. [Задача](https://stepik.org/lesson/%D0%A3%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D1%8F%D1%8E%D1%89%D0%B8%D0%B5-%D0%BA%D0%BE%D0%BD%D1%81%D1%82%D1%80%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D1%83%D1%81%D0%BB%D0%BE%D0%B2%D0%BD%D1%8B%D0%B5-%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D1%8B-%D0%B8-%D1%86%D0%B8%D0%BA%D0%BB%D1%8B-12762/step/10?course=Java-%D0%91%D0%B0%D0%B7%D0%BE%D0%B2%D1%8B%D0%B9-%D0%BA%D1%83%D1%80%D1%81&unit=3110)

Значения каких типов могут использоваться в операторе switch?

charStringint

Эквивалентны ли два следующих цикла?

for (int i = 0; i < 100; i++) {

// тело цикла

}

и

for (int i = 0; i < 100; ) {

// тело цикла

i++;

}

**Не эквивалентны, когда в теле цикла используется continue**

Если вставить break то цикл просто завершится. А с continue прерывается итерация и начинается новая (но как она начнётся если во втором случае счетчик увеличивается после тела цикла). если счётчик увеличивать до тела цикла то всё будет работать.

Реализуйте метод, вычисляющий факториал заданного натурального числа.

Факториал N*N* вычисляется как 1 \cdot 2 \cdot ... \cdot N1⋅2⋅...⋅*N*.

Поскольку это очень быстро растущая функция, то даже для небольших N*N* вместимости типов int и long очень скоро не хватит. Поэтому будем использовать BigInteger.

public class Factorial {  
 BigInteger factorial(int value){  
  
 */\*BigInteger bigInteger = BigInteger.ONE;  
 for (int i = 1; i <= value; i++){  
 bigInteger = bigInteger.multiply(BigInteger.valueOf(i));  
 }  
 return bigInteger;\*/  
  
 /\* BigInteger res = BigInteger.valueOf(1);  
 for (int i = 1; i <= value; i++){  
 res = res.multiply(BigInteger.valueOf(i));  
 }  
 return res;\*/  
  
 /\*if (value == 1 || value == 0) {  
 return BigInteger.ONE;  
 } else {  
 return BigInteger.valueOf(value).multiply(factorial(value - 1));  
 }\*/* return value == 0 ? BigInteger.*ONE* : BigInteger.*valueOf*(value)  
 .multiply(factorial (value-1));  
 }  
}  
  
class DemoFactorial{  
 */\*\*  
 \* Program entry point.  
 \*  
 \* @param args command Line arguments  
 \*/* public static void main(String[] args) {  
  
 Factorial factorial = new Factorial();  
 System.*out*.println(factorial.factorial(5));  
 }  
}