**Programming Paradigms Laboratory**

**B.Tech. 4th Semester**



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| Faculty | Engineering & Technology |
| Programme | B. Tech. in Computer Science and Engineering |
| Year/Semester | 2nd Year / 4th Semester |
| Name of the Laboratory | Programming Paradigms Laboratory |
| Laboratory Code | 19CSL217A |

# Laboratory 1

Title of the Laboratory Exercise: Introduction to Java programming environment with variables, data types and arithmetic operators

1. Questions
2. Develop a Java program to check the input number is positive or negative.
3. Develop a Java program to reverse the input number using for and while loop.
4. Develop a program to compute the factorial of the input number.
5. Develop a Java program to check whether the input year is leap or not.

1. Calculations/Computations/Algorithms

**Algorithm 2.1 Program to check the input number is positive or negative.**

Step 1: start

Step 2: input a number, say num

Step 3: if num > 0 or equal to 0

3.1 then, print “number is positive”

Step 4: else:

4.1 print “number is negative”

Step 5: stop

**Algorithm 2.2 Program to reverse the input number using for and while loop.**

Step 1: start

Step 2: input a number, say num

Step 3: assign another variable rev = 0

Step 4: while (num not equal to 0):

4.1 rev = rev \* 10

4.2 rev = rev + num % 10

4.3 num = num / 10

Step 5: print rev

Step 6: stop

**Algorithm 2.3 Program to compute the factorial of the input number**

Step 1: start

Step 2: input a number, say num

Step 3: assign a variable fact = 1

Step 4: for (i=1 ; i <= n ; i++):

4.1 fact = fact \* i

Step 5: print fact

Step 6: stop

**Algorithm 2.4 Program to check whether the input year is leap or not**

Step 1: start

Step 2: input the year, say variable ‘year’

Step 3: if ((year % 4 == 0 and year % 100 != 0) or year % 400 == 0):

3.1 then, print “leap year”

Step 4: else:

4.1 print “not a leap year”

Step 5: stop

1. Presentation of Results

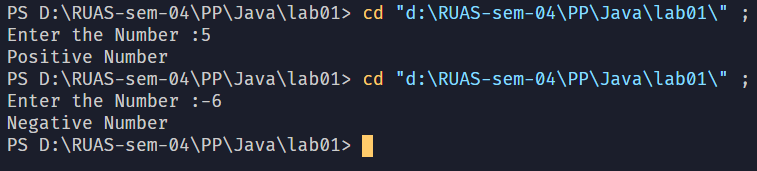
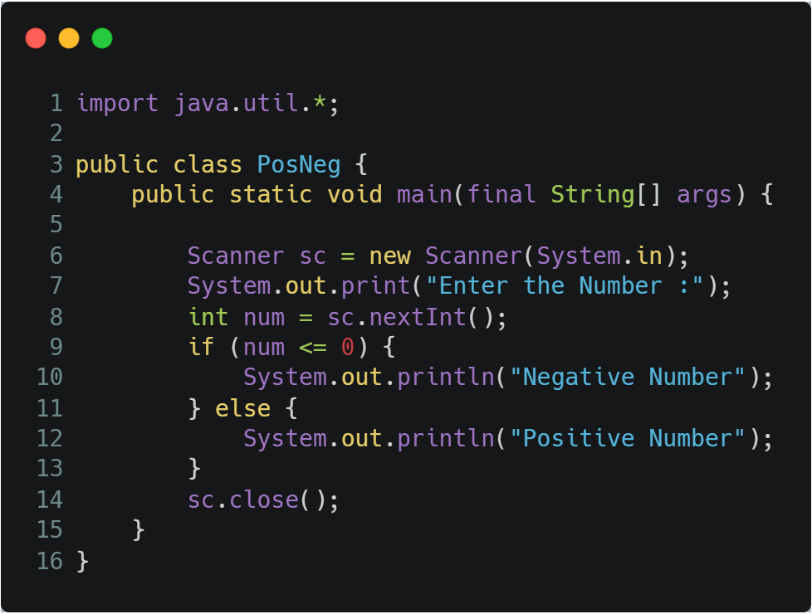


Figure Program to check the input number is positive or negative.

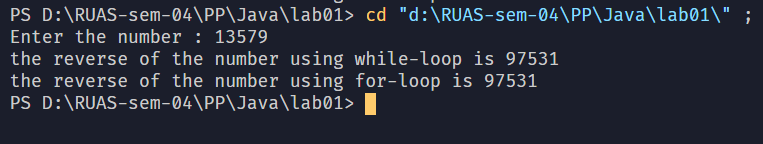
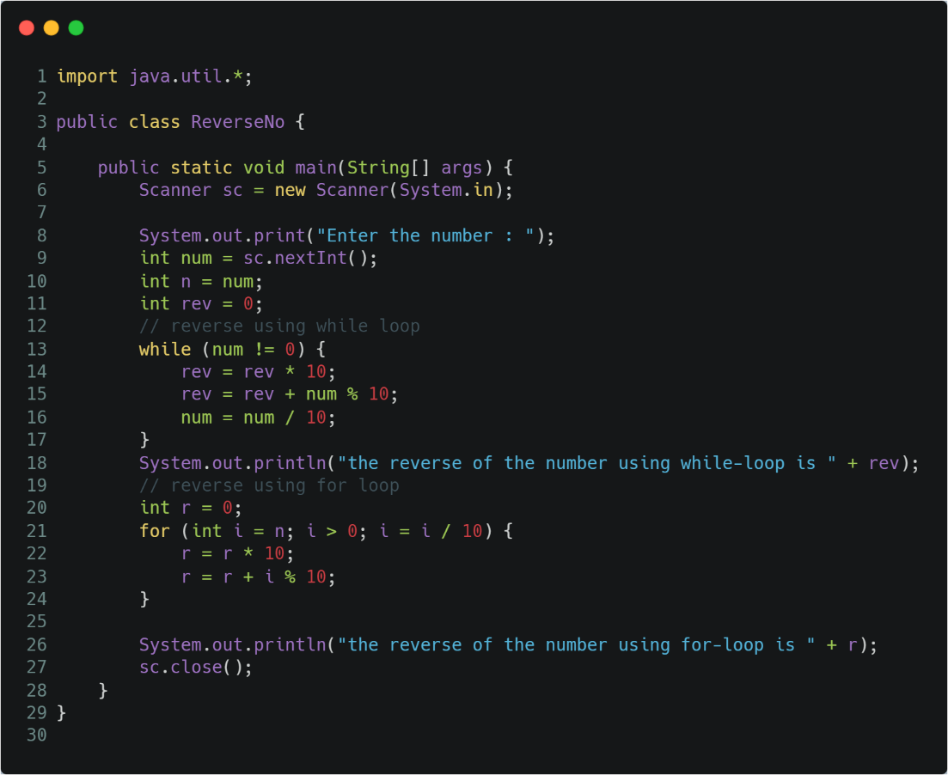


Figure Program to reverse the input number using for and while loop.

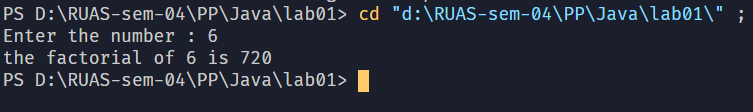
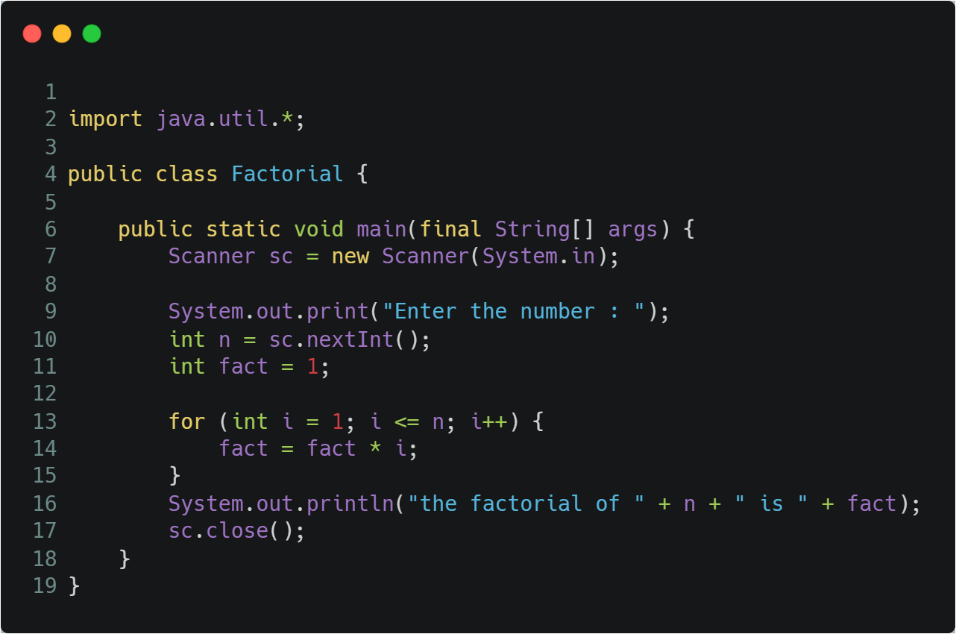


Figure Program to compute the factorial of the input number

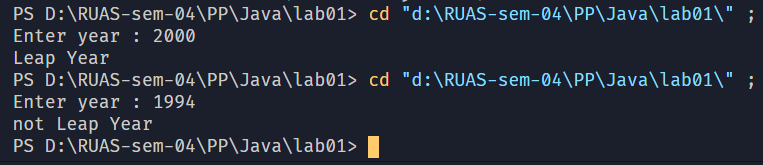
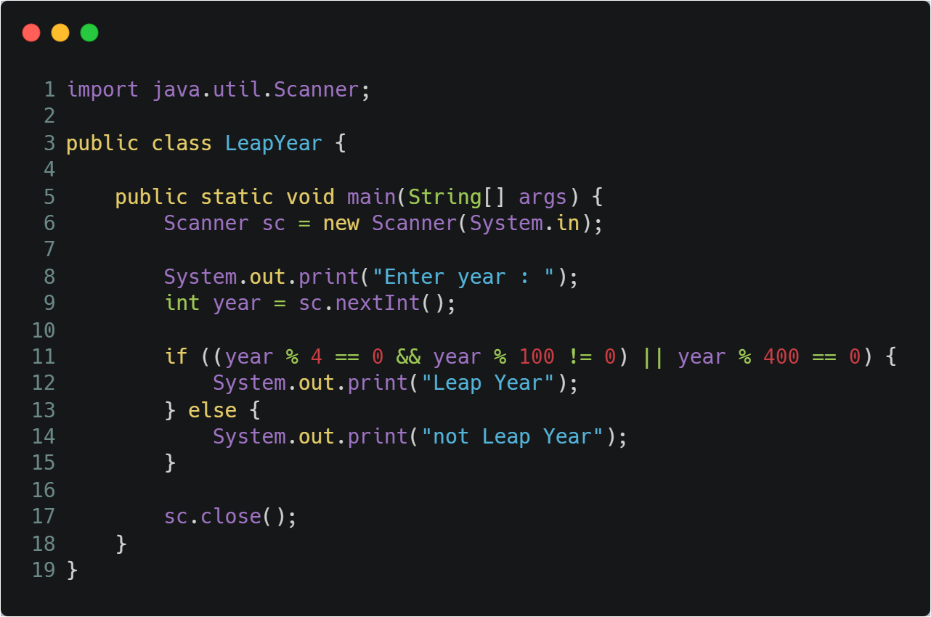


Figure Program to check whether the input year is leap or not.

1. Conclusions
2. Limitations of Experiments and Results

5.1

5.2

5.3