## Instructions for Practical Exercise

1. In your **Java_Practical_Exercises** project folder, create a folder **classes_and_objects**
2. The **java_language_basics** folder will contains code files for this PE that you will do for the Java Classes and Objects topic.
3. Name code files corresponding to PE numbers. For example, Pe1.java is the code file for Practical Exercise 1 (PE 1)
4. Push your project to git

## Practical Exercise: Java Classes and Objects

**PE 1** Write a Java method to Reverse the given input & Check if it is a Palindrome.

**PE 2**: Write a Java method to check if a given number is power of 4

**PE 3**: Create a class named Member with Name, age, Salary as its variable, write an other class named Member Variable that creates an instance of the Member class, initialises its member variables, and then displays the value of each member variable.

Output:

Members Name: Harry Potter

Members Age: 30

Members Salary: 2500.3

**PE 4**: Write a program to read the content of a text file, convert the content in upper case and print the same in console along with the length of the file.

**PE 5**: Write a boolean method called isEven() in a class called EvenNumTest, which takes an int as input and returns true if the input is even. The signature of the method is as follows: public static boolean isEven(int number)

**PE 6**: Write a program, which reads number of students and n grades as input (of int between 0 and 100, inclusive) and displays the average, minimum and maximum.Your program shall check for valid input. You should keep all the grades in an int[] and use a method for each of the computations.

Output:

Enter the number of students: 4

Enter the grade for student 1: 86

Enter the grade for student 2: 65

Enter the grade for student 3: 98

Enter the grade for student 4: 77

The average is 81.50

The minimum is 65

The maximum is 98

**PE 7**: Write a program to list all the factorials, that can be expressed as an int (i.e., 32-bit signed integer). Your output shall look like:

Int Factorials:

The factorial of 1 is 1

The factorial of 2 is 2

.....

The factorial of 12 is 479001600

The factorial of 13 is out of range

**PE 8**: Modify your program and add a method called longFactorial to list all the factorial that can be expressed as a long (64-bit signed integer).The maximum value for long is kept in a constant called Long.MAX_VALUE.

your output shall look like:

Long Factorials:

The factorial of 1 is is 1.

The factorial of 2 is is 2.

.....

The factorial of 20 is is 2432902008176640000.

The factorial of 21 is out of range.

**PE 9**: Write a program to find all files of a folder and select only given extention fileName and read content of this file using byte array

**PE 10**: Write a program to calculate the frequency of the words in a given file,

Example: Create a file named FileDemo.txt with the following content

i am a man ,

i like to sleep ,

i have a home.

Output: i->3 times,

am-1,

like -1,

have -1,

a-2 etc.,