slip24

```java
import java.io.IOException;

import java.nio.file.Files;

import java.nio.file.Path;

import java.nio.file.Paths;

import java.util.List;


public class s24q1 {

    public static void main(String[] args) {


        String filePath = "BBA(CA).txt";



        int digitCount = 0;

        int spaceCount = 0;

        int characterCount = 0;


        try {


            Path path = Paths.get(filePath);

            List<String> lines = Files.readAllLines(path);



            for (String line : lines) {
```

```java
            for (char c : line.toCharArray()) {

                if (Character.isDigit(c)) {

                    digitCount++;

                }

                else if (Character.isWhitespace(c)) {

                    spaceCount++;

                }

                else {

                    characterCount++;

                }

            }

        }

        System.out.println("Number of digits: " + digitCount);

        System.out.println("Number of spaces: " + spaceCount);

        System.out.println("Number of characters (excluding spaces): " + characterCount);

    } catch (IOException e) {

        System.out.println("An error occurred while reading the file: " + e.getMessage());

    }

  }

}
```

```
/path/to/your/project/
├── TYBBACA/
│   ├── Student.java
│   └── Teacher.java
└── Main.java
```

student.java

package TYBBACA;

public class Student {

    private int Rno;

    private String SName;

    private double Per;

        public Student(int rno, String sName, double per) {

        this.Rno = rno;

        this.SName = sName;

        this.Per = per;

    }
```

```java
    public void disp() {

        System.out.println("Roll Number: " + Rno);

        System.out.println("Student Name: " + SName);

        System.out.println("Percentage: " + Per + "%");

    }


    protected void finalize() throws Throwable {

        try {

            System.out.println("Finalizing Student: " + SName);

        } finally {

            super.finalize();

        }

    }

}



teracher.java

package TYBBACA;


public class Teacher {

    private int TID;

    private String TName;
```

```java
private String Subject;

public Teacher(int tID, String tName, String subject) {
    this.TID = tID;

    this.TName = tName;

    this.Subject = subject;
}


public void disp() {
    if ("Java".equalsIgnoreCase(Subject)) {

        System.out.println("Teacher ID: " + TID);

        System.out.println("Teacher Name: " + TName);

        System.out.println("Subject: " + Subject);

    } else {

        System.out.println("This teacher does not teach Java.");

    }
}


protected void finalize() throws Throwable {
    try {

        System.out.println("Finalizing Teacher: " + TName);

    } finally {
```

```java
        super.finalize();

    }

  }

}
```

main.java

```java
import TYBBACA.Student;

import TYBBACA.Teacher;


public class Main {

  public static void main(String[] args) {


      Student[] students = new Student[3];

      students[0] = new Student(1, "Alice", 85.5);

      students[1] = new Student(2, "Bob", 78.0);

      students[2] = new Student(3, "Charlie", 92.0);



      System.out.println("Student Details:");

      for (Student student : students) {

          student.disp();

          System.out.println();
```

```java
        }

        Teacher teacher1 = new Teacher(101, "Dr. Smith", "Java");

        Teacher teacher2 = new Teacher(102, "Mr. Johnson", "Python");


        System.out.println("Teacher Details:");

        teacher1.disp();

        System.out.println();

        teacher2.disp();


        teacher1 = null;

        teacher2 = null;


        System.gc();

    }

}
```

```python
def is_prime(num):

    if num <= 1:
```

```python
        return False
    for i in range(2, int(num**0.5) + 1):
        if num % i == 0:
            return False
    return True

def factorial(num):
    if num < 0:
        raise ValueError("Factorial is not defined for negative numbers.")
    elif num == 0 or num == 1:
        return 1
    else:
        fact = 1
        for i in range(2, num + 1):
            fact *= i
        return fact

try:
    number = int(input("Enter a number: "))
    if is_prime(number):
        print(f"{number} is a prime number.")
    else:
        print(f"{number} is not a prime number.")

    fact = factorial(number)
    print(f"The factorial of {number} is {fact}.")
```

```python
    except ValueError as e:
        print("Invalid input:", e)
```

```python
import tkinter as tk
from tkinter import messagebox

class NumberToWordsApp:
    def __init__(self, master):
        self.master = master
        self.master.title("Number to Words Converter")

        self.label = tk.Label(master, text="Enter a number:")
        self.label.pack(pady=10)

        self.entry = tk.Entry(master)
        self.entry.pack(pady=5)

        self.convert_button = tk.Button(master, text="Convert",
command=self.convert_to_words)
        self.convert_button.pack(pady=20)

        self.result_label = tk.Label(master, text="", wraplength=250)
        self.result_label.pack(pady=10)

    def convert_to_words(self):

        number_str = self.entry.get()
```

```python
        num_to_words = {
            '0': 'zero',
            '1': 'one',
            '2': 'two',
            '3': 'three',
            '4': 'four',
            '5': 'five',
            '6': 'six',
            '7': 'seven',
            '8': 'eight',
            '9': 'nine'
        }

        if not number_str.isdigit():
            messagebox.showerror("Invalid input", "Please enter a valid positive integer.")
            return

        words = [num_to_words[digit] for digit in number_str]
        result = ' '.join(words)

        self.result_label.config(text=f"Digits in words: {result}")


root = tk.Tk()
app = NumberToWordsApp(root)
root.mainloop()
```