Object Oriented Programming Lab 8

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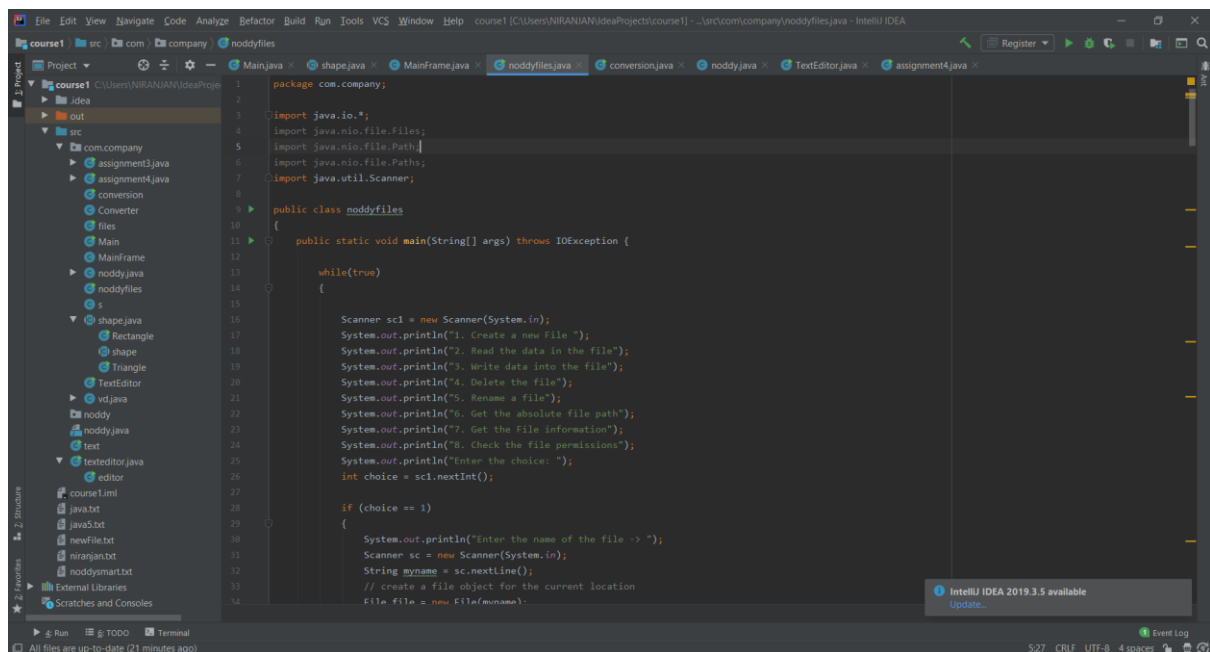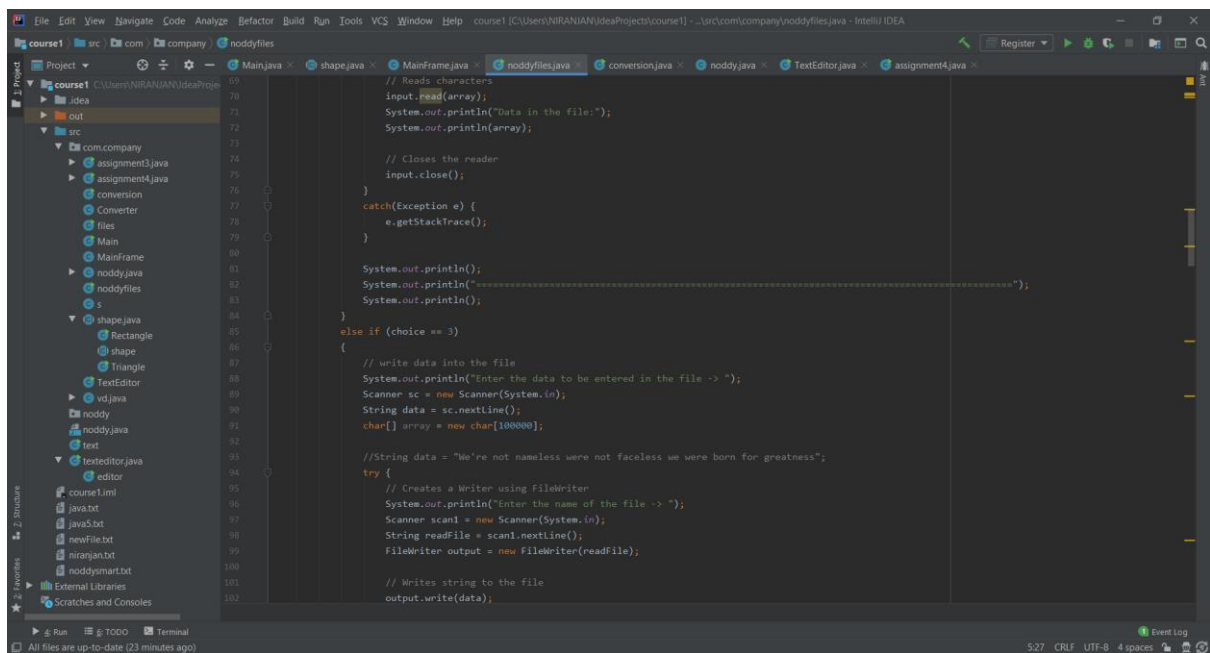
ME-A Batch 3
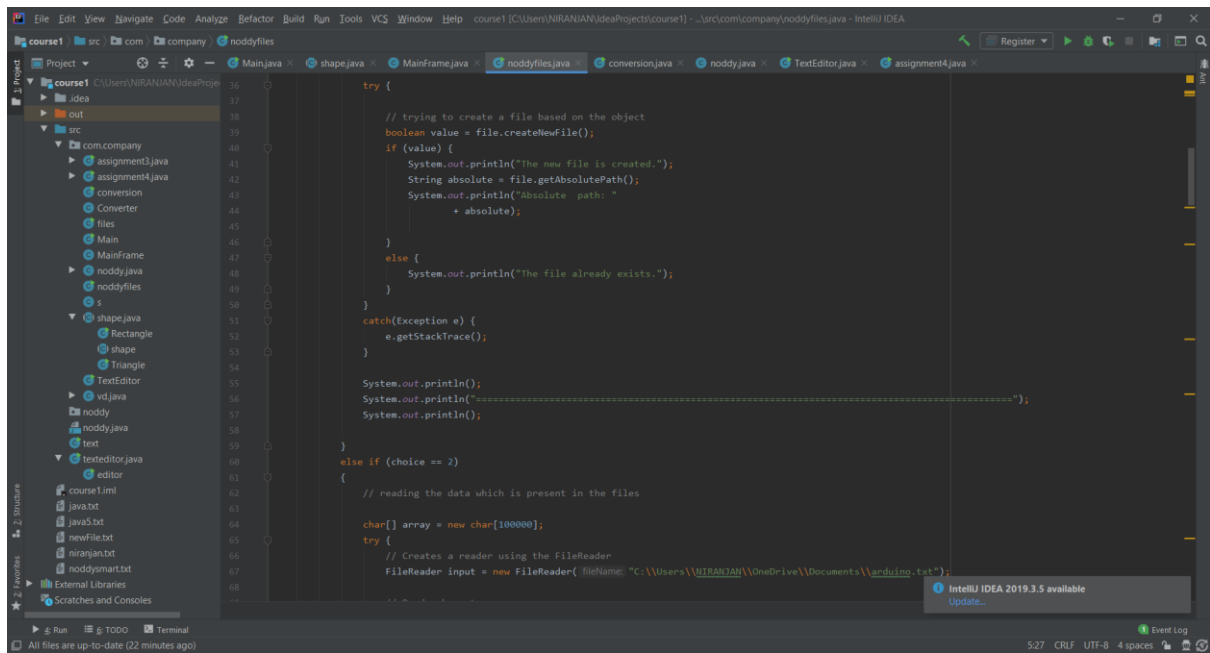

Problem Statement ->

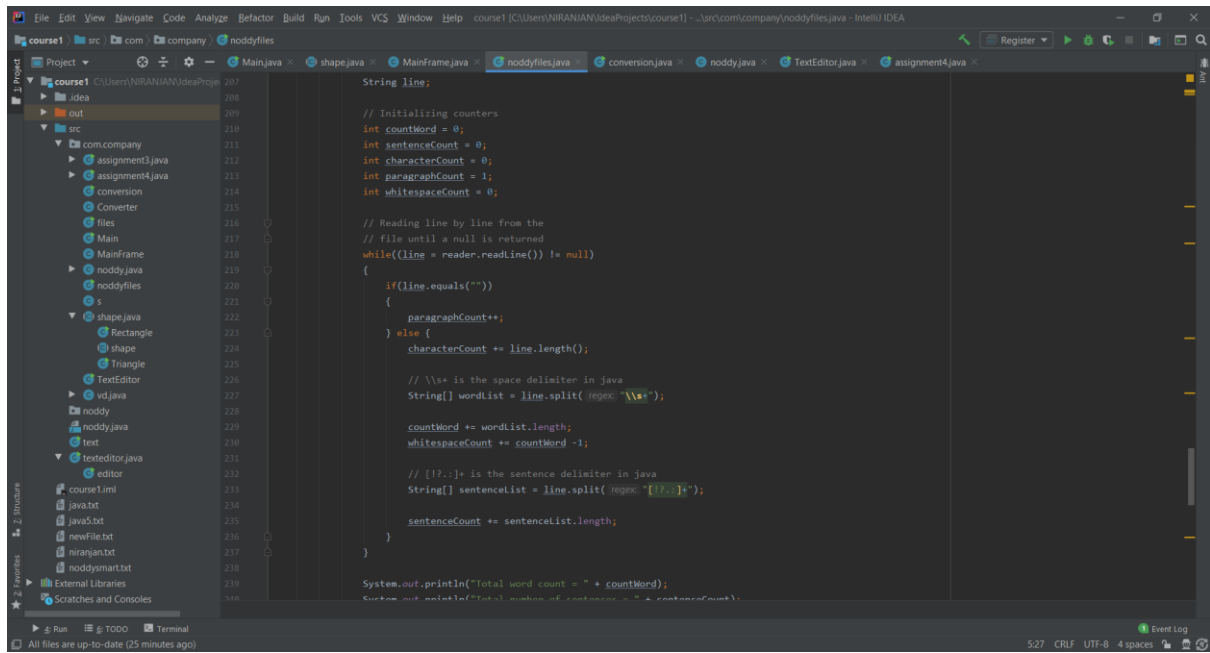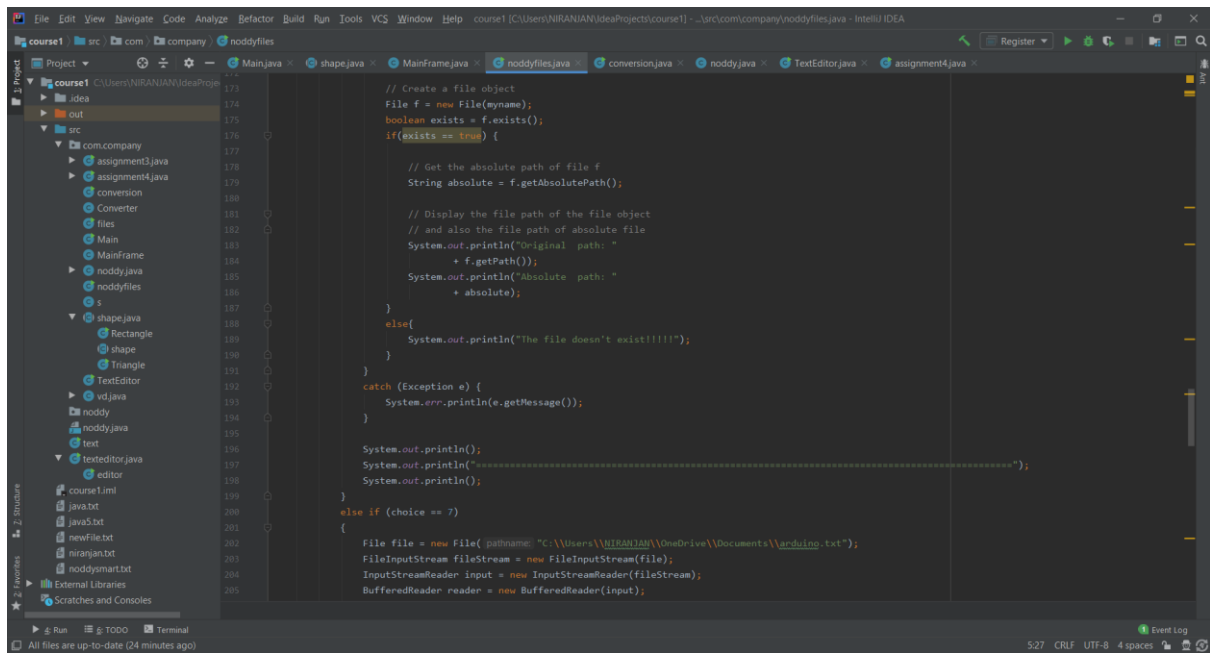Write a Java program to carry out the following operations on a file ->

1. Create a new file.
2. Read the data from the file.
3. Write data into file.
4. Delete the file.
5. Rename the file.
6. Get the absolute file path.
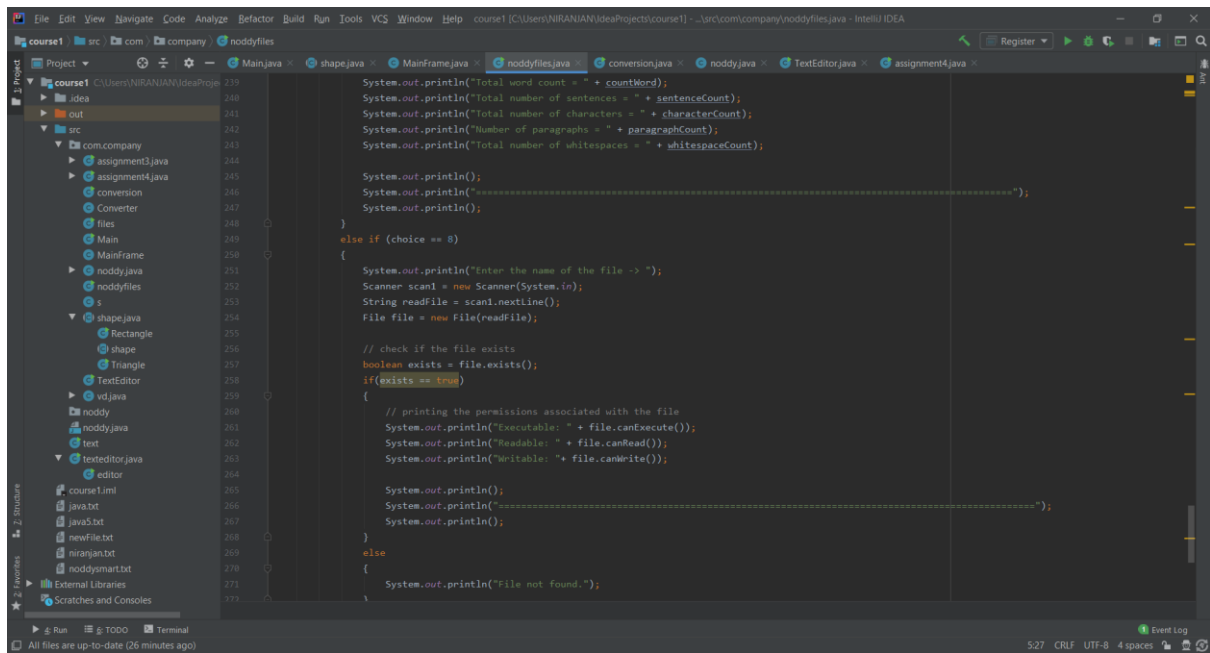7. Get the contents of the file.
8. Get the file permissions.

Code ->

```java
        try {

            // trying to create a file based on the object
            boolean value = file.createNewFile();
            if (value) {
                System.out.println("The new file is created.");
                String absolute = file.getAbsolutePath();
                System.out.println("Absolute  path: "
                        + absolute);

            }
            else {
                System.out.println("The file already exists.");
            }
        }
        catch(Exception e) {
            e.getStackTrace();
        }

        System.out.println();
        System.out.println("==================================================================");
        System.out.println();

    }
    else if (choice == 2)
    {
        // reading the data which is present in the files

        char[] array = new char[100000];
        try {
            // Creates a reader using the FileReader
            FileReader input = new FileReader( fileName: "C:\\Users\\NIRANJAN\\OneDrive\\Documents\\arduino.txt");
```

```java
            // Reads characters
            input.read(array);
            System.out.println("Data in the file:");
            System.out.println(array);

            // Closes the reader
            input.close();
        }
        catch(Exception e) {
            e.getStackTrace();
        }

        System.out.println();
        System.out.println("==================================================================");
        System.out.println();

    }
    else if (choice == 3)
    {
        // write data into the file
        System.out.println("Enter the data to be entered in the file -> ");
        Scanner sc = new Scanner(System.in);
        String data = sc.nextLine();
        char[] array = new char[100000];

        //String data = "We're not nameless were not faceless we were born for greatness";
        try {
            // Creates a Writer using FileWriter
            System.out.println("Enter the name of the file -> ");
            Scanner scan1 = new Scanner(System.in);
            String readFile = scan1.nextLine();
            FileWriter output = new FileWriter(readFile);

            // Writes string to the file
            output.write(data);
```

```java
            output.close();
        }
        catch (Exception e) {
            e.getStackTrace();
        }

        System.out.println();
        System.out.println("===========================================================================");
        System.out.println();
    }
    else if (choice == 4)
    {
        System.out.println("Enter the name of the file -> ");
        Scanner scan1 = new Scanner(System.in);
        String readFile = scan1.nextLine();
        // creates a file object
        File file = new File(readFile);

        // deletes the file
        boolean value = file.delete();
        if(value) {
            System.out.println("The File is deleted.");
        }
        else {
            System.out.println("The File is not deleted.");
        }

        System.out.println();
        System.out.println("===========================================================================");
        System.out.println();

    }

    else if (choice == 5)
```

```java
    {
        System.out.println("Enter the name of the file to be renamed -> ");
        Scanner scan1 = new Scanner(System.in);
        String name1 = scan1.nextLine();
        File oldName =
                new File(name1);
        boolean exists = oldName.exists();
        if(exists == true) {
            System.out.println("Enter the new name of the file -> ");
            Scanner scan2 = new Scanner(System.in);
            String name2 = scan2.nextLine();
            File newName =
                    new File(name2);

            if (oldName.renameTo(newName))
                System.out.println("Renamed successfully");
            else
                System.out.println("Error");
        }
        else
        {
            System.out.println("The file doesn't exit!!!!!");
        }

        System.out.println();
        System.out.println("===========================================================================");
        System.out.println();
    }
    else if (choice == 6)
    {
        try {
            System.out.println("Enter the name of the file -> ");
            Scanner sc = new Scanner(System.in);
            String myname = sc.nextLine();
```

```java
            // Create a file object
            File f = new File(myname);
            boolean exists = f.exists();
            if(exists == true) {

                // Get the absolute path of file f
                String absolute = f.getAbsolutePath();

                // Display the file path of the file object
                // and also the file path of absolute file
                System.out.println("Original  path: "
                        + f.getPath());
                System.out.println("Absolute  path: "
                        + absolute);
            }
            else{
                System.out.println("The file doesn't exist!!!!!");
            }
        }
        catch (Exception e) {
            System.err.println(e.getMessage());
        }

        System.out.println();
        System.out.println("=========================================================================");
        System.out.println();
    }
    else if (choice == 7)
    {
        File file = new File( pathname: "C:\\Users\\NIRANJAN\\OneDrive\\Documents\\arduino.txt");
        FileInputStream fileStream = new FileInputStream(file);
        InputStreamReader input = new InputStreamReader(fileStream);
        BufferedReader reader = new BufferedReader(input);
```

```java
        String line;

        // Initializing counters
        int countWord = 0;
        int sentenceCount = 0;
        int characterCount = 0;
        int paragraphCount = 1;
        int whitespaceCount = 0;

        // Reading line by line from the
        // file until a null is returned
        while((line = reader.readLine()) != null)
        {
            if(line.equals(""))
            {
                paragraphCount++;
            } else {
                characterCount += line.length();

                // \\s+ is the space delimiter in java
                String[] wordList = line.split( regex: "\\s+");

                countWord += wordList.length;
                whitespaceCount += countWord -1;

                // [!?.:]+ is the sentence delimiter in java
                String[] sentenceList = line.split( regex: "[!?.:]+");

                sentenceCount += sentenceList.length;
            }
        }

        System.out.println("Total word count = " + countWord);
        System.out.println("Total number of sentences = " + sentenceCount);
```

Output of the Following Program ->

Screenshot 1 — Run console output:

```
"C:\Program Files\Java\jdk-11.0.6\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2019.3.1\lib\idea_rt.jar=53584:C:\Program Files\JetBrains\IntelliJ IDEA Communi
1. Create a new File
2. Read the data in the file
3. Write data into the file
4. Delete the file
5. Rename a file
6. Get the absolute file path
7. Get the File information
8. Check the file permissions
Enter the choice:
1
Enter the name of the file ->
assignment files.txt
The new file is created.
Absolute  path: C:\Users\NIRANJAN\IdeaProjects\course1\assignment files.txt

===================================================================================

1. Create a new File
2. Read the data in the file
3. Write data into the file
4. Delete the file
5. Rename a file
6. Get the absolute file path
7. Get the File information
8. Check the file permissions
Enter the choice:
2
Data in the file:
Working on building a wifi controlling module for controlling a servo motor through an arduino uno device

the basic steps and procedures required for the following process are:
```

Screenshot 2 — Run console output (continued):

```
Enter the choice:
2
Data in the file:
Working on building a wifi controlling module for controlling a servo motor through an arduino uno device

the basic steps and procedures required for the following process are:

1. Defining the servo motor
2. Defining the wifi module and setting the baud reate for proper connection
3. Creating an html web page for accessing the wifi module through its ip adress and password
4. Defining an angle to the servo motor through input if the data has been passed on to the wifi module
5. Defining the pins on which the rx and tx of the wifi module has to be fitted on and the pin to which the signal port of the servo motor has to be connected


===================================================================================

1. Create a new File
2. Read the data in the file
3. Write data into the file
4. Delete the file
5. Rename a file
6. Get the absolute file path
7. Get the File information
8. Check the file permissions
Enter the choice:
3
Enter the data to be entered in the file ->
I have been walking o
Enter the name of the file ->
assignment files.txt
Data is written to the file.

===================================================================================
```

```
1. Create a new File
2. Read the data in the file
3. Write data into the file
4. Delete the file
5. Rename a file
6. Get the absolute file path
7. Get the File information
8. Check the file permissions
Enter the choice:
4
Enter the name of the file ->
java5.txt
The File is deleted.


================================================================

1. Create a new File
2. Read the data in the file
3. Write data into the file
4. Delete the file
5. Rename a file
6. Get the absolute file path
7. Get the File information
8. Check the file permissions
Enter the choice:
5
Enter the name of the file to be renamed ->
java.txt
Enter the new name of the file ->
java2.txt
Renamed successfully
```



```
1. Create a new File
2. Read the data in the file
3. Write data into the file
4. Delete the file
5. Rename a file
6. Get the absolute file path
7. Get the File information
8. Check the file permissions
Enter the choice:
6
Enter the name of the file ->
java2.txt
Original  path: java2.txt
Absolute  path: C:\Users\NIRANJAN\IdeaProjects\course1\java2.txt


================================================================

1. Create a new File
2. Read the data in the file
3. Write data into the file
4. Delete the file
5. Rename a file
6. Get the absolute file path
7. Get the File information
8. Check the file permissions
Enter the choice:
7
Total word count = 119
Total number of sentences = 12
Total number of characters = 632
Number of paragraphs = 3
Total number of whitespaces = 383
```