



# Software Testing and Quality Assurance - 2023

## Assignment 1

### Black Box testing and Graph Coverage

#### Deadline & Submission:

1. **Teams:** Form a team of 2-3 students from the same group or the same TA.
2. Upload it on Classroom with file named:  
**A1\_student1ID\_student2ID\_student3ID\_GroupName.zip**  
e.g., A1\_20130001\_20130002\_S1\_S2.zip
3. **Cheating** could lead to serious consequences.

#### Question 1 Blackbox Testing:

*JFreeChart is an open source Java framework for chart calculation, creation and display. This framework supports many different (graphical) chart types, including pie charts, bar charts, line charts, histograms, and several other chart types.*

*We used this framework before in lab 2,*

**you will be provided with**

*An Eclipse Java project for JFreeChart. The project includes:*

- a. a jar file for a modified version of JFreeChart for this assignment (JFreeChart.jar within the JFreeChartJar folder).*
- b. A set of needed libraries for JFreeChart jar file to compile properly.*
- c. A sample test file QuarterClassTest.java provides a sample test case. This test case passes.*
- d. A Modified JavaDocs zip file including the Java Docs for the JFreeChart application.*

#### **Classes to be tested**

- `org.jfree.data.time.Quarter` (test All constructors and Methods)

#### **Deliverables**

- Submit ONE test file including your tests for Quarter class .
- Bugs Report contains the method to be tested, test cases and status (Passed, Failed) and any additional notes if you have.



## Question 2 Graph Coverage:

*Consider the following method*

```
public int findTheFirstPrimeNumber(int startNumber, int endNumber)
{
    if(startNumber > endNumber)
        return -1;

    if(startNumber < 2)
        return -1;

    for(int i = startNumber; i <= endNumber; i++)
    {
        if(i%2 == 0)
            continue;

        boolean isPrime = true;

        for(int j =2; j < i; j++)
        {
            if(i % j ==0)
            {
                isPrime = false;
                break;
            }
        }
        if(isPrime)
            return i;
    }
    return -1;
}
```



### ***Deliverables***

- *Text file contains All nodes (comma separated) mentioning the start and end nodes, Test Paths for nodes coverage with a test case for each path.*
- *Text file contains All Edges (comma separated), Test Paths for edges coverage with a test case for each path.*
- *Text file contains Prime path coverage with a test case for each path.*
- *Screenshot for the graph*