

**Student Name: Tianle Shu**

**Student Id: 19232619**

**Lecturer Name: Seamus Hill**

## Question-1:

```
//Student Name: Tianle Shu

//Student Id: 19232619

//Lecturer: Seamus Hill

package nuig.question1;


import java.util.Scanner;


public class NumberDigits {

    @SuppressWarnings("resource")

    public static void main(String[] args) {

        // Scanner class, get user input, and it is found in the
        java.util package.

        Scanner input = new Scanner(System.in);

        // Declare the num type long

        long num;

        // print out some rules to tell user

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

        System.out.println("This Program that counts the number
        of digits");

        System.out.println("in an interger entered by the
        user.");

        System.out.println("Enter -1 to Exit.");

        System.out.println("-----
        -----");
```

```

// while-loop
// Infinite loop
while (true) {
    // declare count initial value is 0 ,
    long count = 0;
    // tell user input number
    System.out.print("Enter number: ");
    num = input.nextLong();
    long temp = num;
    // if num = -1, end the loop
    if (num == -1) {
        System.out.println("Program Terminated.");
        // jump to loop
        break;
    }
    // if num==0, let the count=1
    else if (num == 0) {
        count = 1;
        System.out.println("Number of digits in " + temp +
" is " + count);
        // continue;
    } else {
        // if num does not equal to 0
        // execute this while loop for calculator the
digit number of num
        while (num != 0) {

```

```

        num = num / 10;

        count++;

    } // end-while

    // print out the result.

    System.out.println("Number of digits in " + temp +
" is " + count);

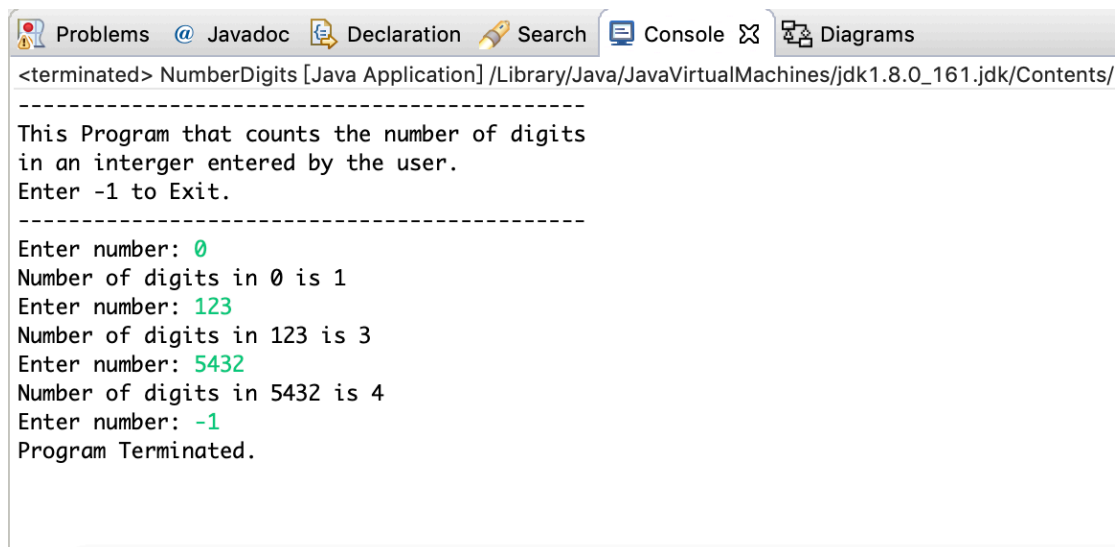
    }

    } // end-while

} // end main method

} // end class

```



The screenshot shows an IDE interface with a toolbar at the top containing icons for Problems, Javadoc, Declaration, Search, Console, and Diagrams. The Console tab is active, displaying the output of a Java application named 'NumberDigits'. The output text is as follows:

```

<terminated> NumberDigits [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_161.jdk/Contents/
-----
This Program that counts the number of digits
in an interger entered by the user.
Enter -1 to Exit.
-----
Enter number: 0
Number of digits in 0 is 1
Enter number: 123
Number of digits in 123 is 3
Enter number: 5432
Number of digits in 5432 is 4
Enter number: -1
Program Terminated.

```

## Question-2.1:

```
package assignment3;

public class Student {
    private String name;
    private long IDnumber;

    public Student() {
    }

    public Student(String name, long iDnumber) {
        super();
        this.name = name;
        IDnumber = iDnumber;
    }

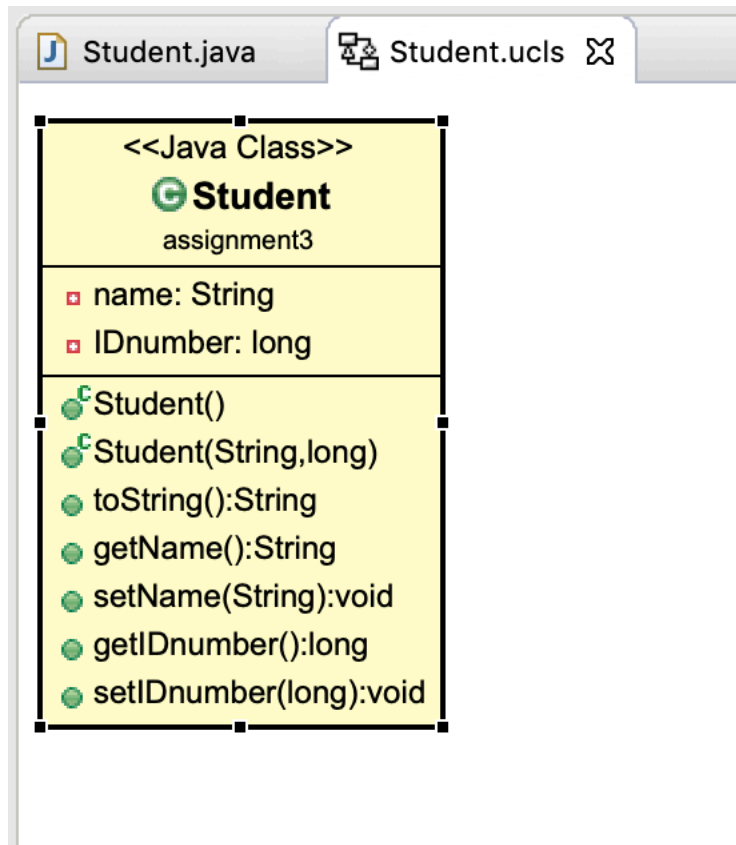
    @Override
    public String toString() {
        return "Student [name=" + name + ", IDnumber=" +
IDnumber + "]";
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public long getIDnumber() {
        return IDnumber;
    }

    public void setIDnumber(long iDnumber) {
        IDnumber = iDnumber;
    }
}
```



## Question-2.2:

```
//Student Name: Tianle Shu
//Student Id: 19232619
//Lecturer: Seamus Hill
package assignment3;

import java.util.Scanner;

public class Test {

    @SuppressWarnings("resource")
    public static void main(String[] args) {
        // declare a num type int, for array size.
        int num;
        // Scanner class, get user input, and it is found in the
        java.util package.
        Scanner input = new Scanner(System.in);
        input.useDelimiter("\\\\n");
```

```

        // print out a line tell user input the number of
students
        System.out.println("How many students you want to
enter?");
        // get the number(the number of students) from user
input
        num = input.nextInt();

        // declare an array to hold a collection of Student
objects.
        Student[] students = new Student[num];

        // for-loop
        for (int i = 0; i < students.length; i++) {
            // create new object
            students[i] = new Student();
            // let user input student name
            System.out.println("Please input student name: ");
            // get students name from console
            String name = input.next();
            // set student name
            students[i].setName(name);
            // let user input student id number
            System.out.println("Please input student id number:
");
            // get student id number from console
            int id = input.nextInt();
            // set student id number
            students[i].setIDnumber(id);
        } // end for-loop

        for (int i = 0; i < students.length; i++) {
            // user toString method from Student, for print out
the student information.
            System.out.println((i + 1) + " - " +
students[i].toString());
        } // end for-loop
    } // end main method
} // end class

```

Problems @ Javadoc Declaration Search Console Diagrams

<terminated> Test (1) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0\_161.

How many students you want to enter?

3

Please input student name:

mark healy

Please input student id number:

12345678

Please input student name:

laura wang

Please input student id number:

543154

Please input student name:

hehe li

Please input student id number:

23232312

1 - Student [name=mark healy, IDnumber=12345678]

2 - Student [name=laura wang, IDnumber=543154]

3 - Student [name=hehe li, IDnumber=23232312]