Student Name: Tianle Shu

Student Id: 19232619

Lecturer Name: Seamus Hill

Question-1-a:

```java
//Student Name: Tianle Shu
//Student Id: 19232619
//Lecturer: Seamus Hill
package nuig.question1;

public class Student {

    private String name;
    private int id;
    private String course;

    public Student() {

    }

    public Student(String name, int id, String course) {
        this.name = name;
        this.id = id;
        this.course = course;
    }

    public String getName() {
        return name;
    }

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

    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }

    public String getCourse() {
        return course;
    }
```

```java
    public void setCourse(String course) {
        this.course = course;
    }

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

}
```

Question-1-b:

```java
//Student Name: Tianle Shu
//Student Id: 19232619
//Lecturer: Seamus Hill
package nuig.question1;
import java.util.ArrayList;
import java.util.List;

public class StudentTest {

    public static void main(String[] args) {
        // create a new ArrayList object, Student is element
type
        // named students
        List<Student> students = new ArrayList<>();

        // creates three instances of the Student class
        // create new object called student1
        // test empty constructor
        Student student1 = new Student();
        // let student1 add in students(arrayList)
        students.add(student1);

        // create new object called student2
```

```java
        Student student2 = new Student();
        // use setter method to set the student name, id, and
course
        student2.setName("mary");
        student2.setId(1234);
        student2.setCourse("Software Development");
        // and also add in students (arrayList)
        students.add(student2);

        // create new object called student3
        // and this is test constructor to set the name, id, and
course
        Student student3 = new Student("John", 7788, "Software
Design");
        students.add(student3);

        // Declare a n for int type
        // give initial value is 0
        int n = 0;
        System.out.println("-----------Student Info-----------
\n");
        // use enhance for loop
        for (Student s : students) {
            // If n <2
            // we use toString method to print out the Student
Info (test ToString method)
            if (n < 2) {
                System.out.println(s.toString() + " - (test
toString() method)");
                System.out.println();
            } else {
                // else, we use get method to print out the
Student Info (Test Get method)
                System.out.println("Student [name=" + s.getName()
+ ", id=" + s.getId() + ", course=" + s.getCourse()
                    + "] - (test getter method)");
            }
            n++;
        } // end for loop
    }// end main method

}// end class
```

Question-2-a:

```java
//Student Name: Tianle Shu
//Student Id: 19232619
//Lecturer: Seamus Hill
package nuig.question2;

public class Movie {
    private String title;
    private String genre;
    private int rating;

    public Movie(String title, String genre, int rating) {
        this.title = title;
        this.genre = genre;
        this.rating = rating;
    }

    public String getTitle() {
        return title;
    }

    public void setTitle(String title) {
        this.title = title;
    }

    public String getGenre() {
        return genre;
    }
}
```

```java
    public void setGenre(String genre) {
        this.genre = genre;
    }

    public int getRating() {
        return rating;
    }

    public void setRating(int rating) {
        this.rating = rating;
    }

    public void playIt(){
     System.out.println("Playing the Movie");
    }
}
```

Question-2-a:

```java
//Student Name: Tianle Shu
//Student Id: 19232619
//Lecturer: Seamus Hill
package nuig.question2;
import java.io.IOException;
import java.util.Scanner;

public class MovieTest {
    @SuppressWarnings("resource")
    public static void main(String[] args) throws IOException {
        // creates three instances of the
        // Movie class and stores them in an array
        Movie movies[] = new Movie[3];

        // create a for loop to set the
        // title, genre and rating of the Movie objects.
        for (int i = 0; i < 3; i++) {
            // Scanner class, get user input, and it is found in
the java.util package.
            Scanner input = new Scanner(System.in);
            // create new object
            movies[i] = new Movie(null, null, 0);
            // Tell user to input the title of movie
```

```java
            System.out.print("Please enter the title of movie " +
(i + 1) + ": ");
            // get title from console
            String title = input.nextLine();

            // Tell user to input the genre of movie
            System.out.print("Please enter the genre of movie " +
(i + 1) + ": ");
            // get genre from console
            String genre = input.nextLine();
            // Tell user to input the rating of movie
            System.out.print("Please enter the rating (1-5) for
movie " + (i + 1) + ": ");
            // get rating from console
            int rating = input.nextInt();

            // use setter method to set the title, genre
            // and rating of the movie
            movies[i].setTitle(title);
            movies[i].setGenre(genre);
            movies[i].setRating(rating);

            // also can use constructor to set them
            // movies[i] =new Movie(title, genre, rating);
        } // end for loop

        // let the console result more prety
        System.out.println();

        // use for loop to output the results
        for (int i = 0; i < 3; i++) {
            System.out.println("Movie " + (i + 1) + " Title: " +
movies[i].getTitle());
            System.out.println("Movie " + (i + 1) + " Genre: " +
movies[i].getGenre());
            System.out.println("Movie " + (i + 1) + " Ratting: "
+ movies[i].getRating());
            System.out.print(movies[i].getTitle() + " - ");
            // call playIt() method
            movies[i].playIt();
        } // end for loop

    }// end main method
}// end class
```

<terminated> MovieTest [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8

```
Please enter the title of movie 1: Big Hero 6
Please enter the genre of movie 1: Catoon
Please enter the rating (1-5) for movie 1: 9
Please enter the title of movie 2: E.T. the Extra-Terrestrial
Please enter the genre of movie 2: Family, Sci-Fi
Please enter the rating (1-5) for movie 2: 8
Please enter the title of movie 3:  The Dark Knight
Please enter the genre of movie 3: Action, Crime, Drama
Please enter the rating (1-5) for movie 3: 9

Movie 1 Title: Big Hero 6
Movie 1 Genre: Catoon
Movie 1 Ratting: 9
Big Hero 6 - Playing the Movie
Movie 2 Title: E.T. the Extra-Terrestrial
Movie 2 Genre: Family, Sci-Fi
Movie 2 Ratting: 8
E.T. the Extra-Terrestrial - Playing the Movie
Movie 3 Title:  The Dark Knight
Movie 3 Genre: Action, Crime, Drama
Movie 3 Ratting: 9
 The Dark Knight - Playing the Movie
```