CT874

Assignment 5

H. Dip. Industry Stream

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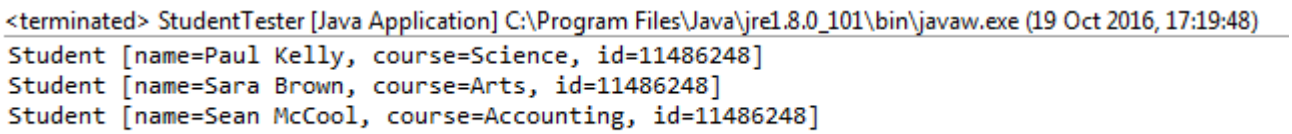
Question 1

Code:

```
/*Tori Hume
 * ID: 11486248
 * Assignment 5
 * Question 1
 * Part a.
 */

//create class
public class Student {

	// declare variables, make them private
	private String name, course;
	private int id;

	// default constructor
	public Student() {
		this.name = "Unknown";
		this.id = 0;
		this.course = "Unknown";
	}

	// creates getters and setters for each variable
	public String getName() {
		return name;
	}

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

	public String getCourse() {
		return course;
	}

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

	public int getId() {
		return id;
	}

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

	// Overrides the toString() method
	public String toString() {
		return "Student [name=" + name + ", course=" + course + ", id=" + id + "]";
	}

}// closes the Student class
```

```java
/*Tori Hume
 * ID: 11486248
 * Assignment 5
 * Question 1
 * Part b.
 */

import java.util.ArrayList;
import java.util.List;

public class StudentTester {

	public static void main(String[] args) {

		// Creats an arrayList to hold a collection of Student objects, allows
		// the addition of new members to a list
		List<Student> studentList = new ArrayList<Student>();

		// add 3 new instances of student to studentList
		studentList.add(new Student());
		studentList.add(new Student());
		studentList.add(new Student());

		// For each instance of student use getter and setters
		// to assign values to the variables name, id, and course
		studentList.get(0).setName("Paul Kelly");
		studentList.get(0).setId(11486248);
		studentList.get(0).setCourse("Science");

		studentList.get(1).setName("Sara Brown");
		studentList.get(1).setId(11486248);
		studentList.get(1).setCourse("Arts");

		studentList.get(2).setName("Sean McCool");
		studentList.get(2).setId(11486248);
		studentList.get(2).setCourse("Accounting");

		// Uses and enhanced for loop to print the content of the array to the
		// screen
		for (Student s : studentList) {
			System.out.println(s.toString());
		}
	}

}// closes StudentTester Class
```

Screen Shot:



Question 2

Code:

```
/*Tori Hume
 * ID: 11486248
 * Assignment 5
 * Question 2
 * Part a.
 */

//create class
public class Movie {

	// declare variables, make them private
	private String title, genre;
	private int rating;

	// Creates playIt method that does not return anything but prints to the
	// screen.
	public void playIt() {
		System.out.println("Now playing: " + getTitle());
	}

	// default constructor
	public Movie() {
		this.title = "Not yet assigned";
		this.genre = "Not yet assigned";
		this.rating = 0;
	}

	// creates getters and setters for each variable
	public String getGenre() {
		return genre;
	}

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

	public int getRating() {
		return rating;
	}

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

	public String getTitle() {
		return title;
	}

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

} //closes class
```

```java
/*Tori Hume
 * ID: 11486248
 * Assignment 5
 * Question 2
 * Part b.
 */

//import Scanner class
import java.util.Scanner;

//create MovieTester class
public class MovieTester {

	// create main method
	public static void main(String[] args) {

		// create new instance of Scanner called input
		Scanner input = new Scanner(System.in);

		// create new Array of Movie classes called movieList
		Movie movieList[] = new Movie[3];

		// create a for loop to populate classes and in turn the array
		for (int i = 0; i < movieList.length; i++) {

			// declare variables
			String title, genre;
			int rating;
			// create new instance of class Movie called m
			Movie m = new Movie();

			// uses input to assign values entered through the command window to
			// the variables
			// uses setters to set variables to m
			System.out.println("Please enter the title of movie " + (i + 1) + ":");
			title = input.nextLine();
			m.setTitle(title);

			System.out.println("Plese enter the genre of movie " + (i + 1) + ":");
			genre = input.nextLine();
			m.setGenre(genre);

			System.out.println("please enter the rating (from 1-5) for movie " + (i +
			1) + ":");
			rating = input.nextInt();

			// create a while loop to ensure the rating is between 1 and 5
			while (rating > 5 || rating < 0) {
				System.out.println("Value entered invalid, please enter a value
				between 1 and 5:");
				rating = input.nextInt();
			}

			m.setRating(rating);

			// Assignees the instance m to the ith index in the array movieList
			movieList[i] = m;
			input.nextLine(); // flushes the buffer
		}

		// closes input
		input.close();
```

```
            // uses for loop to iterate through the array and display to screen
            for (int i = 0; i < movieList.length; i++) {

                  Movie m = movieList[i];
                  System.out.println("Movie " + (i + 1) + " Title: " + m.getTitle());
                  System.out.println("Movie " + (i + 1) + " Genre: " + m.getGenre());
                  System.out.println("Movie " + (i + 1) + " Rating: " + m.getRating());
                  m.playIt();
            }

      }// closes method

}// closes class
```

Screen Shot:

```
<terminated> MovieTester [Java Application] C:\Program Files\Java\jre1.8.0_101\bin\javaw.exe (19 Oct 2016, 14:38:52)
Please enter the title of movie 1:
Bad Moms
Plese enter the genre of movie 1:
Comedy
please enter the rating (from 1-5) for movie 1:
4
Please enter the title of movie 2:
The Lion King
Plese enter the genre of movie 2:
Kids
please enter the rating (from 1-5) for movie 2:
5
Please enter the title of movie 3:
IronMan
Plese enter the genre of movie 3:
Action Comedy
please enter the rating (from 1-5) for movie 3:
6
Value entered invalid, please enter a value between 1 and 5:
5
Movie 1 Title: Bad Moms
Movie 1 Genre: Comedy
Movie 1 Rating: 4
Now playing: Bad Moms
Movie 2 Title: The Lion King
Movie 2 Genre: Kids
Movie 2 Rating: 5
Now playing: The Lion King
Movie 3 Title: IronMan
Movie 3 Genre: Action Comedy
Movie 3 Rating: 5
Now playing: IronMan
```