



University of Vavuniya

First Examination in Information Technology – 2021

Second Semester - August/September 2023

IT1214 Object Oriented Design and Programming (Practical)

Answer All Questions

Time Allowed: Three Hours

Instruction: Create a folder on Desktop with your INDEX NUMBER as the FOLDER NAME. Save all your files in that folder.

1. You are required to develop a Java application for movie management. The application should implement the following classes and functionalities:

(a) Implement a class **Movie** in Java with the following properties:

i. Fields (Private):

- title (String): The title of the movie.
- year (int): The year of release.
- budget (double): The budget of the movie.
- worldwideEarnings (double): The worldwide earnings of the movie.
- leadActor (Actor): The lead actor of the movie.
- productionCompany (String): The production company of the movie.

ii. Constructor:

- A constructor to initialize all the instance variables.

This question is continued on the next page

iii. Methods (Public):

- Getters for each of the instance variables.
- void play(): Display the details of the movie.

[40%]

(b) Implement a class **Actor** in Java with the following properties:

i. Fields (Private):

- name (String): The name of the actor.
- gender (String): The gender of the actor.
- age (int): The age of the actor.
- country (String): The country of the actor.

ii. Constructor:

- A constructor to initialize all the instance variables.

iii. Methods (Public):

- Getters for each of the instance variables.
- void displayInfo(): Display the details of the actor.

[25%]

(c) Implement a class **MovieApp** to attain each of the following tasks.

i. Create the following Actors.

Name	Gender	Age	Country
Christian Bale	Male	47	United Kingdom
Jim Carrey	Male	60	Canada
Leonardo DiCaprio	Male	47	United States
Tom Cruise	Male	59	United States
Scarlett Johansson	Female	37	United States
Chris Hemsworth	Male	38	Australia

ii. Create the following Movies.

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Name	Year	Budget (In Mn)	World- wide Earning (In Mn)	Lead Ac- tor	Production Company
The Dark Knight	2008	185	1004	Christian Bale	Warner Bros
Mission:Impossible	2018	178	791	Tom Cruise	Paramount Pictures
Avengers:Endgame	2019	356	2798	Scarlett Johansson	Marvel Studios
John Wick	2014	20	89	Chris Hemsworth	Lionsgate
Inception	2010	160	828.3	Leonardo DiCaprio	Warner Bros
Interstellar	2014	165	677.47	Leonardo DiCaprio	Paramount Pictures
The Matrix	1999	63	463.57	Tom Cruise	Warner Bros
Blade Runner 2049	2017	150	259.24	Christian Bale	Warner Bros
Star Wars: Episode VII	2015	245	2068.2	Scarlett Johansson	Lucasfilm
Dumb and Dumber	1994	17	247.28	Jim Carrey	NewLine Cinema

- iii. Set the World wide Earning of the film “Interstellar” to 701.27.
- iv. Display the details of the highest grossing movie.
- v. List the movies released after 2017.
- vi. Display the production company with the highest total collection.

This question is continued on the next page

- vii. Find the total collection earned by "Warner Bros".
- viii. List the Movie names played by the actor "Tom Cruise".
- ix. Display the details of the actors from the United States.

[35%]

Sample Output:

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Highest Grossing Movie:
Movie:  Avengers:  Endgame (2019)
Production Company:  Marvel Studios
Budget:  $356.0
Worldwide earnings:  $2798.0
Lead Actor:Scarlett Johansson
#####
Movies Released after 2017:
Movie:  Mission:  Impossible - Fallout (2018)
Production Company:  Paramount Pictures
Budget:  $178.0
Worldwide earnings:  $791.0
Lead Actor:Tom Cruise

Movie:  Avengers:  Endgame (2019)
Production Company:  Marvel Studios
Budget:  $356.0
Worldwide earnings:  $2798.0
Lead Actor:Scarlett Johansson
#####

Production Company with the Highest Total Collection:  Marvel Studios
#####

Total Collection Earned by Warner Bros:  $2555.1099999999997
#####
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Movies acted by the actor Tom Cruise:

Mission: Impossible - Fallout

The Matrix

#####

Actors from United States

Name: Leonardo DiCaprio

Gender: Male

Age: 47

Country: United States

Name: Tom Cruise

Gender: Male

Age: 59

Country: United States

Name: Scarlett Johansson

Gender: Female

Age: 37

Country: United States