

Question - 5

```
import java.io.*;  
import java.util.Scanner;  
import java.util.ArrayList;
```

```
class Film {
```

```
    private String name, language, leadActor, category;  
    private int duration, yearOfRelease;
```

```
    public Film() {
```

```
        name = language = leadActor = category = "";  
        duration = yearOfRelease = 0;
```

```
    }
```

```
    public Film(String name, String lang, String leadActor, String  
        category, int duration, int yearOfRelease) {
```

```
        this.name = name;
```

```
        this.language = language;
```

```
        this.leadActor = leadActor;
```

```
        this.category = category;
```

```
        this.duration = duration;
```

```
        this.yearOfRelease = yearOfRelease;
```

```
    }
```

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

```
    }  
    System.out.println("set");
```

```
    public void setLanguage(String language) {  
        this.language = language.toLowerCase();
```

```
    }
```

```
public void setCategory(String category) {  
    this.category = category;  
}
```

```
public void setYearOfRelease(int YearOfRelease) {  
    this.yearOfRelease = YearOfRelease;  
}
```

```
public String getName() {  
    String returnName = this.name.substring(0,1).toUpperCase()  
        + this.name.substring(1);  
    return returnName;  
}
```

```
public String getLanguage() {  
    String returnLanguage = this.language.substring(0,1).  
        toUpperCase() + this.language.  
        substring(1);  
    return returnLanguage;  
}
```

```
public String getLeadActor() {  
    String returnLeadActor = this.leadActor.substring(0,1).  
        toUpperCase() + this.leadActor.toUpper-  
        case(1).  
        toUpperCase() + this.leadActor.subst-  
        (1);  
}
```

```
public int getYear() {  
    return this.YearOfRelease;  
}
```

```
class SourceOfFunctions {
```

```
    Film[][] create2DArray(Film films[]) {
```

```
        Film[][] array2D = new Film[6][films.length];
```

```
        int counter[] = new int[6];
```

```
        for(Film film: films) {
```

```
            if (film.getYearOfRelease() == 1971)
```

```
                array2D[0][counter[0]++] = film;
```

```
            else if (film.getYearOfRelease() > 1971 &&  
                    film.getYearOfRelease() <= 1980)
```

```
                array2D[1][counter[1]++] = film;
```

```
            else if (film.getYearOfRelease() > 1981 &&
```

```
                    film.getYearOfRelease() <= 1990)
```

```
                array2D[2][counter[2]++] = film;
```

```
            else if (film.getYearOfRelease() > 1991 &&
```

```
                    film.getYearOfRelease() <= 2000)
```

```
                array2D[3][counter[3]++] = film;
```

```
            else if (film.getYearOfRelease() > 2001 &&
```

```
                    film.getYearOfRelease() <= 2010)
```

```
                array2D[4][counter[4]++] = film;
```

```
            else  
                array2D[5][counter[5]++] = film;
```

```
        }
```

```
        return array2D;
```

```
    }
```



```

ArrayList<Film> getRajiniFilms (ArrayList<Film> films) {
    ArrayList<Film> rajRajiniFilms = new ArrayList<Film>();
    for (Film film: films) {
        if ((film.getLeadActor().equals("Rajinikanth")) ||
            film.getLeadActor().equals("Rajini")) &&
            (film.getLanguage().equals("Tamil"))) {
            rajiniFilms.add(film);
        }
    }
    return rajiniFilms;
}

```

```

ArrayList<Film> getArnoldFilms (ArrayList<Film> films) {
    ArrayList<Film> arnoldFilms = new ArrayList<Film>();
    for (Film film: films) {
        if ((film.getLeadActor().equals("Arnold")) &&
            (film.getLanguage().equals("English"))) {
            arnoldFilms.add(film);
        }
    }
    return arnoldFilms;
}

```

ArrayList<Film> getComedyFilms (ArrayList<Film> films, String actor) {

> ②:

```
    ArrayList<Film> comedyFilmsWithActor = new ArrayList<Film>();  
    actor = actor.substring(0,1).toUpperCase() + actor.substring(1);  
    for (Film film: films) {  
        if (film.category().equals("comedy") && film.getLeadActor().equals(actor))  
            comedyFilmsWithActor.add(film);  
    }  
    return comedyFilmsWithActor;  
}
```

Film getShortestFilm (ArrayList<Film> films) {
 Film shortestFilm = film.get(0);

~~for~~

```
    for (Film film: films) {  
        if (shortestFilm.getDuration() > film.getDuration())  
            shortestFilm = film;  
    }  
    return shortestFilm;  
}
```

}

class FilmMain {

```
    public static void main (String args[]) throws IOException {  
        Scanner sc scanner = new Scanner(System.in);  
        BufferedReader br = new BufferedReader (new  
            InputStreamReader (System.in));
```

```
        int n;
```

```
System.out.print("Enter the num of movies: ");  
n = scanner.nextInt();
```

```
ArrayList<Film> film = new ArrayList<Film>();  
int numOfFilm = 0;
```

```
for (int i=0; i<n; i++) {
```

```
    Film film = new Film();
```

```
    System.out.println("Film " + i + ":");
```

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

```
    System.out.print("Enter film name: ");
```

```
    String fname = br.readLine();
```

```
    film.setName(fname);
```

```
    System.out.print("Enter film lead actor: ");
```

```
    String lead = br.readLine();
```

```
    System.out.print("Enter film category: ");
```

```
    String category = br.readLine();
```

```
    film.setCategory(category);
```

```
    System.out.print("Enter duration: ");
```

```
    int duration = Integer.parseInt(br.readLine());
```

```
film.setYearOfRelease
```

```
film.setDuration(duration);
```



```

SourceOfFunctions sof = new SourceOfFunctions();
ArrayList<Film> rajniFilms = sof.getRajniFilms(films);
ArrayList<Film> arnoldFilms = sof.getArnoldFilms(films);
    "      comedyFilms = sof.getComedyFilms(films);

```

```

for (Film rajniFilm: rajniFilms) {
    System.out.println("Film name: " + rajniFilm.getName());
    "      "      ("Film lang" + rajniFilm.getLang());
    "      "      ("Film actor" + " . getLeadActor());
    "      ("Film category" + " . getCategory());
    "      ("Film duration" + " . getDuration());
    "      ("Film year of Rel." + " . getOfRelease());
}

```

// Same for arnoldFilm variable

```

Film shortestFilm = sof.getShortestFilm(arnoldFilms);
System.out.println("Shortest Arnold Film: " + shortestFilm.
    getName());

```

```

for (Film comedyFilm: comedyFilms) {
    System.out.println("Film name: " + comedyFilm.getName());
    System.out.println("language: " + comedyFilm.getLanguage());
    "      ("Actor" + comedyFilm.getActor());
    "      // Print category, duration, year of release
    "      // similarly
}

```

```
System.out.println("Enter the actor to get his comedy  
movies: ");
```

```
String actor = br.readLine();
```

```
ArrayList<Film> actorComedyFilms = bf.getComedyFilms  
(films, actor);
```

```
for (Film comedyFilm: actorComedyFilms) {
```

```
    System.out.println("Name: " + comedyFilm.getName());
```

```
    System.out.println("Lang: " + comedyFilm.getLang());
```

```
    "    "    " ("Film actor: " + comedyFilm.getActor());
```

```
    System.out.println("Category " + comedyFilm.getCategory());
```

```
    System.out.println("Year of Rel " + comedyFilm.getYearOfRel());
```

```
}
```

```
}
```

```
}
```