1. The class Movie is stated below. An instance of class Movie represents a film. This class has the following three properties:

* title, which is a String representing the title of the movie
* studio, which is a String representing the studio that made the movie
* rating, which is a String representing the rating of the movie (i.e. PG­13, R, etc)

a) Write a constructor for the class Movie, which takes a String representing the title of the movie, a String representing the studio, and a String representing the rating as its arguments, and sets the respective class properties to these values.

b) The constructor for the class Movie will set the class property rating to "PG" as default when no rating is provided.

c) Write a method getPG, which takes an array of base type Movie as its argument, and returns a new array of only those movies in the input array with a rating of "PG". You may assume the input array is full of Movie instances. The returned array need not be full.

d) Write a piece of code that creates an instance of the class Movie with the title “Casino Royale”, the studio “Eon Productions”, and the rating “PG­13”.

Solution:

 class Movie{

     constructor(movietitle,studios,rating){

         this.title=movietitle;

         this.studio=studios;

         this.rating=rating;

     }

     getpg(...moviedetails){

         let collection=[]

         for(let i=0;i<moviedetails.length;i++){

            //CHECKING THE WHETHER THE RATING OF THE MOVIE IS PG OR NOT//

             if(moviedetails[i].rating==="PG" || moviedetails[i].rating==="PG-13"){

                 collection.push(moviedetails[i])

             }

         }

         console.log(collection) ;

 }

}

 let moviedetails=new Movie('movietitle','studios','rating')

 //INITIALIZING ARRAY OF MOVIES WITH THERE RATING STUDIOS//

 moviedetails.getpg(

     {

        movietitle:"harry potter",

        studios:"Warner Bros production",

       rating:"PG",

     },

         {

            movietitle:"james bond",

         studios:"BD-CINE production",

        rating:"PG-13",

         },

          { movietitle:"LORD OF THE RINGS",

          studios:"Warner Bros production",

          rating:"PG"

        },

          {

              movietitle:"THE GRUDGE",

          studios:"20th Century Studios",

          rating:"R",

   },

   {

    movietitle:"home alone",

    studios:"Walt Disney Pictures",

    rating:"PG"

   },

   {

    movietitle:"AVENGERS SERIES ",

    studios:"Marvel Studios",

   rating:"PG-13",

 },

 {

    movietitle:"BACK TO THE FUTHER",

    studios:"20th Century Studios",

   rating:"PG",

 },

 {

    movietitle:"POLAR EXPRESS",

    studios:"Walt Disney Pictures ",

   rating:"PG",

 }

 ,

 {

    movietitle:"DEAD POOL",

    studios:"Marvel Studios",

   rating:"R",

 },

 {

    movietitle:"RESIDENTAL EVIL",

    studios:"Marvel Studios",

   rating:"R",

 },

 {

      movietitle:"NIGHT AT THE MEUSEUM",

    studios:"20th Century Studios",

   rating:"PG",

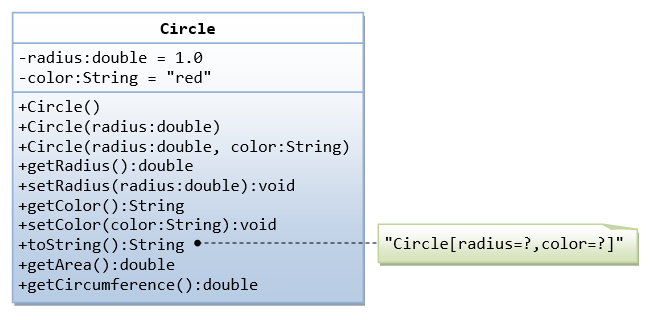
 }

     );

Output:

* 1. **0**: {movietitle: 'harry potter', studios: 'Warner Bros production', rating: 'PG'}
  2. **1**: {movietitle: 'james bond', studios: 'BD-CINE production', rating: 'PG-13'}
  3. **2**: {movietitle: 'LORD OF THE RINGS', studios: 'Warner Bros production', rating: 'PG'}
  4. **3**: {movietitle: 'home alone', studios: 'Walt Disney Pictures', rating: 'PG'}
  5. **4**: {movietitle: 'AVENGERS SERIES ', studios: 'Marvel Studios', rating: 'PG-13'}
  6. **5**: {movietitle: 'BACK TO THE FUTHER', studios: '20th Century Studios', rating: 'PG'}
  7. **6**: {movietitle: 'POLAR EXPRESS', studios: 'Walt Disney Pictures ', rating: 'PG'}
  8. **7**: {movietitle: 'NIGHT AT THE MEUSEUM', studios: '20th Century Studios', rating: 'PG'}
  9. **length**: 8

2. Convert the UML diagram to Typescript class. - use number for double

[](https://github.com/rvsp/typescript-oops/blob/master/images/ClassDiagram_Circle.png)

Code:

 class Circle{

    constructor(radius,color){

        this.radius=radius;

        this.color=color;

    }

    getarea(){

        let areaofcircle= Math.PI\*this.radius\*this.radius

        return `RADIUS IF THE CIRCULE=${this.radius}m

        COLOR OF THE CIRCLE=${this.color}

        AREA OF THE CIRCLE =${areaofcircle}m `

    }

    getcircumference(){

        let circum=2\*Math.PI\*this.radius;

        return `RADIUS IF THE CIRCULE=${this.radius}m

        COLOR OF THE CIRCLE=${this.color}

        CIRCUMFERENCE OF THE CIRCLE IS =${circum}m `

    }

}

let area=new Circle ( '1.0', 'RED',)

console.log(area.getarea())

console.log(area.getcircumference())

console.log(`VALUE OF :${Math.PI}`)

output:

RADIUS IF THE CIRCULE=1.0m

COLOR OF THE CIRCLE=RED

AREA OF THE CIRCLE =3.141592653589793m

RADIUS IF THE CIRCULE=1.0m

COLOR OF THE CIRCLE=RED

CIRCUMFERENCE OF THE CIRCLE IS =6.283185307179586m

VALUE OF :3.141592653589793

3.Write a “person” class to hold all the details.

CODE:

 class Person{

    constructor(first\_name,last\_name,age,email,designation,location){

        this.first\_name=first\_name;

        this.last\_name=last\_name;

        this.age=age;

        this.email=email;

        this.designation=designation;

        this.location=location;

    }

    getdetails(){

        return ` FIRST-NAME : ${this.first\_name}

        LAST\_NAME : ${this.last\_name}

        AGE : ${this.age}

        EMAIL : ${this.email}

         DESIGNATION: ${this.designation}

         LOCATION : ${this.location}`

    }

 }

 let person=new Person('ganesh','kalyan',23,'ganeshkalyan506@gmail.com','full stack web development','THIRUPATHI')

 console.log(person.getdetails())

OUTPUT:

FIRST-NAME : ganesh

LAST\_NAME : kalyan

AGE : 23

EMAIL : ganeshkalyan506@gmail.com

DESIGNATION: full stack web development

LOCATION : THIRUPATHI

4.write a class to calculate uber price.

CODE:

class Uber{

     constructor(strat\_location,destination,distance\_in\_KM,no\_persons,price\_per\_KM,booking\_charges){

         this.strat\_location=strat\_location;

         this.destination=destination;

         this.distance\_in\_KM=distance\_in\_KM;

         this.no\_persons=no\_persons;

         this.price\_per\_KM=price\_per\_KM;

         this.booking\_charges=booking\_charges;

     }

     get\_total\_trevell\_fare(){

         if(this.no\_persons>0 && this.no\_persons<=2){

             this.price\_per\_KM=7

             let totafee=(this.distance\_in\_KM\*this.price\_per\_KM)+this.booking\_charges;

           console.log( `START\_LOCATION :${this.strat\_location}

                          DESTINATION  :${this.destination}

                          DISTANCE : ${this.distance\_in\_KM}KM

                          NO\_OF\_PERSONS : ${this.no\_persons}

                          PRICE\_PER\_KM : ${this.price\_per\_KM}rs

                          BOOKING\_CHRGES: ${this.booking\_charges}rs

                          TOTAL\_FARE\_OF\_TREVELL= ${totafee} rs per person

           `);

         }

         else if(this.no\_persons>2 && this.no\_persons<=5){

             this.price\_per\_KM=5;

             let totafee=(this.distance\_in\_KM\*this.price\_per\_KM)+this.booking\_charges;

             console.log( `START\_LOCATION :${this.strat\_location}

                            DESTINATION  :${this.destination}

                            DISTANCE : ${this.distance\_in\_KM}KM

                            NO\_OF\_PERSONS : ${this.no\_persons}

                            PRICE\_PER\_KM : ${this.price\_per\_KM} rs

                            BOOKING\_CHRGES: ${this.booking\_charges}rs

                            TOTAL\_FARE\_OF\_TREVELL= ${totafee} :rs per person `)

         }

         else{

            this.price\_per\_KM=4;

            let totafee=(this.distance\_in\_KM\*this.price\_per\_KM)+this.booking\_charges;

            console.log( `START\_LOCATION :${this.strat\_location}

                           DESTINATION  :${this.destination}

                           DISTANCE : ${this.distance\_in\_KM}KM

                           NO\_OF\_PERSONS : ${this.no\_persons}

                           PRICE\_PER\_KM : ${this.price\_per\_KM} rs

                           BOOKING\_CHRGES: ${this.booking\_charges}rs

                           TOTAL\_FARE\_OF\_TREVELL= ${totafee} : rs per person`)

         }

     }

 }

 let ubercharge=new Uber('thirupathi',"chittoor", 70, 1, " ", 4.5)

 ubercharge.get\_total\_trevell\_fare();

OUTPUT:

START\_LOCATION :thirupathi

DESTINATION :chittoor

DISTANCE : 70KM

NO\_OF\_PERSONS : 1

PRICE\_PER\_KM : 7rs

BOOKING\_CHRGES: 4.5rs

TOTAL\_FARE\_OF\_TREVELL= 494.5 rs per person