

TCR INNOVATION

java class exercises

1. Create a Circle class to represent a Circle type in java, which should have following :
 - radius. Instance field of type double
 - No-argument constructor. Set radius with default value of 1.0
 - Constructor. that accept an argument for radius
 - getRadius. public method that returns the radius of Circle
 - getArea. Method that returns the area of Circle

2. Create a Pet class to represent a Pet type in java, which should have the following fields:
 - name: Instance variable of type String that holds the name of a pet.
 - animal: Instance variable of type String that holds the type of animal that a pet is.
 - age: Instance variable of type int holds the pet's age.

The Pet class should also have the following methods:

constructor for this class. The constructor should accept an argument for each of the fields.

setName: The setName method stores a value in the name field.

setAnimal: The setAnimal method stores a value in the animal field.

setAge: The setAge method stores a value in the age field.

getName: The getName method returns the value of the name field.

getAnimal: The getAnimal method returns the value of the animal field.

getAge: The getAge method returns the value of the age field.

3. Create a new Car class named Car that has the following fields:
 - year - The year field is an int that holds a car's year model (e.g. 2015)
 - make - The make field is a String object that holds the make of the car (e.g. "Honda")

speed - The speed field is an double that holds a car's maximum speed (e.g. 85.0)

In addition, the Car class should have the following methods.

Constructor - The constructor should accept the car's year, make, and beginning speed as arguments

These values should be used to initialize the Car's year, make, and speed fields

Getter Methods - Write three accessor (getter) methods to get the values stored in an object's fields getYear(), getMake(), getSpeed()

4. Write a Java class Author with following features:

Instance variables :

firstName for the author's first name of type String.

lastName for the author's last name of type String.

Constructor:

public Author (String firstName, String lastName): A constructor with parameters, it creates the Author object by setting the two fields to the passed values.

Instance methods:

Create AuthoInfo() method .

5. Write a Java class Book with following features:

Instance variables :

title for the title of book of type String.

author for the author's name of type String.

price for the book price of type double.

Constructor:

`public Book (String title, Author name, double price):` A constructor with parameters, it creates the Author object by setting the the fields to the passed values.

Instance methods:

`public void setTitle(String title):` Used to set the title of book.

`public void setAuthor(String author):` Used to set the name of author of book.

`public void setPrice(double price):` Used to set the price of book.

`public double getTitle():` This method returns the title of book.

`public double getAuthor():` This method returns the author's name of book.

`public String toString():` This method printed out book's details to the screen

Write a separate class `BookDemo` with a `main()` method creates a `Book` titled "Developing Java Software" with authors Russel Winderand price 79.75. Prints the Book's string representation to standard output (using `System.out.println`).

6. Write a program to print the area of a rectangle by creating a class named 'Area' having two methods. First method named as 'setDim' takes length and breadth of rectangle as parameters and the second method named as 'getArea' returns the area of the rectangle. Length and breadth of rectangle are entered through keyboard.
7. Write a program to print the area and perimeter of a triangle having sides of 3, 4 and 5 units by creating a class named 'Triangle' without any parameter in its constructor.
8. Write a program to print the area and perimeter of a triangle having sides of 3, 4 and 5 units by creating a class named 'Triangle' with constructor having the three sides as its parameters.

9. Write a program to print the area of two rectangles having sides (4,5) and (5,8) respectively by creating a class named 'Rectangle' with a method named 'Area' which returns the area and length and breadth passed as parameters to its constructor.
10. Write a program to print the area of a rectangle by creating a class named 'Area' taking the values of its length and breadth as parameters of its constructor and having a method named 'returnArea' which returns the area of the rectangle. Length and breadth of rectangle are entered through keyboard.
11. Print the average of three numbers entered by user by creating a class named 'Average' having a method to calculate and print the average.
12. Print the sum, difference and product of two complex numbers by creating a class named 'Complex' with separate methods for each operation whose real and imaginary parts are entered by user.
13. Write a program that would print the information (name, year of joining, salary, address) of three employees by creating a class named 'Employee'. The output should be as follows:
- | Name | Year of joining | Address |
|--------|-----------------|------------------|
| Robert | 1994 | 64C- WallsStreat |
| Sam | 2000 | 68D- WallsStreat |
| John | 1999 | 26B- WallsStreat |

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Last Date to Submit Assignment: **24th Feb 2022**

Minimum 4 questions has to be submitted.

Others can be taken for practice.