CT1: CSE 203 - Object-Oriented Programming I: Java
Time: 30 min Mark: 20

Name: ID:

Question 1: [12] Define a class and name it as "**Lion**". Add the following inside the class.

1. Define instance variables *species, color, weight*
2. Add a parameterized **constructor** which will take 3 parameters. Inside the constructor initializes the attributes with the parameters passed to the constructor.
3. Add the following methods.
    a. public void hunt(String *prey*)
        – Inside the method, print "*species* like to hunt *prey*." where *species* is the value of the *species* attribute and *prey* is the value of the parameter passed to the method. b. public double getWeight()
        – the method should return the *weight* attribute.
    c. public void display()
        – inside the method, print the value of all three attributes.

Question 2: [8]

Define a class and name it as "**TestLion**". Define the **main** method inside the class. Inside the main, do the following.

1. Create an object of **Lion** class *name*="Royal Bengal Tiger", *color*="Golden" and *weight* =200. Store the reference to a variable name *myLion*.
2. Call the **hunt(…)** method using the *myLion* variable and pass *"deer"* as the parameter of the method.
3. Call the **display(…)** method using the *myLion*.
    - What is the output of this method?

Name: ID:

Question 1: [12] Define a class and name it as "**ICPCVolunteer**". Add the following inside the class.

1. Define instance variables *name, role, rank*
2. Add a parameterized **constructor** which will take 3 parameters for the 3 attributes. Inside the constructor initializes the respective attributes with the parameters passed to the constructor.
3. Add the following methods.
    a. *public void getTraining(String **trainingName**, int **score**)*
        – Inside the method, increase the *rank* by *score* amount and print "*name* attended *trainingName* training.". Here *name* and *rank* are instance variables where as *trainingName* and *score* are the values of the parameters passed to the method. b. public int getRank()
        – the method should return the *rank* attribute.
    c. public void display()
        – inside the method, print the value of all three attributes.

Question 2: [8]

Define a class and name it as "**ICPCContest**". Define the **main** method inside the class. Inside the main, do the following.

1. Create an object of **ICPCVolunteer** class *name*=your name, *role* = "registration", and *rank* =2. Store the reference to a variable name *volunteer*.
2. Call the *getTraining(...)* method using the *volunteer* variable and pass "Meet and Greet" and *3* as the parameters of the method.
3. Call the **display(...)** method using the *volunteer*.
    - What is the output of this method?

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Question 1: [12] Define a class and name it as "**Doctor**". Add the following inside the class.

1. Define instance variables **name, specialty, rank**
2. Add a parameterized **constructor** which will take 3 parameters. Inside the constructor initializes the attributes with the parameters passed to the constructor.
3. Add the following methods.
   a. public void prescribe(String **patient,** String **med**)
      – Inside the method, print "**name** prescribe **med** to **patient**." Also increase the **rank** by 1. Here **name** and **rank** are the instance variables where as **patient** & **med** are the value of the parameters passed to the method.
   b. public int getRank()
      – the method should return the **rank** attribute.
   c. public void display()
      – inside the method, print the value of all three attributes.

Question 2: [8]

Define a class and name it as "**TestDoctor**". Define the **main** method inside the class. Inside the main, do the following.

1. Create an object of **Doctor** class **name**=your name, **specialty**="Child Specialist" and rank =2. Store the reference to a variable name **myDoctor**.
2. Call the **prescribe(…)** method using the **myDoctor** variable and pass **"Tareq"** and "**Ace**" as the parameters of the method.
3. Call the **display(…)** method using the **myDoctor**.
   - What is the output of this method?

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Question 1: [12] Define a class and name it as "**ICPCTeam**". Add the following inside the class.

1. Define instance variables *coachName, memberCount, noOfProbSolved*
2. Add a parameterized **constructor** which will take 2 parameters for coach name and member count. Inside the constructor initializes the respective attributes with the parameters passed to the constructor.
3. Add the following methods.

  a. public void solveProblems(int *count*)

   – Inside the method, increase the *noOfProbSolved* by *count* where *noOfProbSolved* is the attribute and *count* is the value of the parameter passed to the method. b. public int getNoOfProblemSolved()

   – the method should return the *noOfProbSolved* attribute.

  c. public void display()

   – inside the method, print the value of all three attributes.

Question 2: [8]

Define a class and name it as "**ICPCContest**". Define the **main** method inside the class. Inside the main, do the following.

1. Create an object of **ICPCTeam** class *coachName*=your name, and *memberCount* =3. Store the reference to a variable name *myTeam*.
2. Call the *solveProblems(…)* method using the *myTeam* variable and pass *3* as the parameter of the method.
3. Call the **display(…)** method using the *myTeam*.
 - What is the output of this method?