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| --- | --- |
| No. of Pages | 3 |
| No. of Questions | 3 |
| Total Marks | 30 |
| **Time**: 1 Hours | |

**Department of Computer Science and Engineering**

A

**MIDTERM EXAMINATION Summer 2016**

**CSE 111: Programming Language II**

* Answer all questions. Use the answer script for rough work.
* Write final answers of tracing problems **on the question paper**.
* Figure in bracket [] next to each question indicates marks for that question.
* At the end of exam, put **question paper** inside answer script and **return both**.
* Understanding the question is part of the exam, **please do not ask questions**. No washroom breaks.



**Section: \_\_\_ ID: \_\_\_\_\_\_\_\_\_\_\_\_\_ Name in CAPITAL: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name of Lab Teachers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lab Room Number \_\_\_\_\_\_\_\_\_\_\_\_\_ Lab Day \_\_\_\_\_\_\_\_\_\_\_**

#### Question 1 [10 Points]

**public class Dog{**

**private String color = "Black";**

**//your code here**

**}**

**public class Midterm{**

**public static void main(String [] args){**

**Dog scooby = new Dog();**

**Dog odie = new Dog ("Red");**

**Dog goofy = new Dog("Blue");**

**scooby.bark();**

**odie.bark();**

**goofy.bark();**

**scooby.changeColor("Brown");**

**scooby.bark();**

**}**

**}**

Complete the **Dog** class so the **main** method above produces the following output:

**Black dog is braking**

**Red dog is braking**

**Blue dog is braking**

**Brown dog is braking**

**[Answer on the answer-script]**

#### Question 2 [12 Points]

**Consider the following class:**

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| --- |
| **public class Human{** |
| **public int age = 11;** |
| **public double height = 11.11;** |
| **public void printBoth(){** |
| **age = age + 1;** |
| **System.out.println(age +"2");** |
| **System.out.println(height);** |
| **height--;** |
| **}** |
| **}** |

**Show the output of the following sequence of statements:**

|  |  |
| --- | --- |
| **Human h1 = new Human();**  **Human h2 = new Human();**  **System.out.println(h1.age);**  **System.out.println(h1.height);**  **h2.height = h1.height - 3;**  **h2.age = h1.age + 1;**  **h1.printBoth();**  **h2.printBoth();**  **h2 = h1;**  **h2.age++;**  **h2.height++;**  **h1.printBoth();**  **h2.printBoth();**  **System.out.println(h2.age);**  **System.out.println(h1.height);** | **Output** |
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#### Question 3 [8 Points]

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| **class A{** |
| **public static int x = 10;** |
| **public int y = 100;** |
| **public A(){** |
| **int x = 100;** |
| **y = y - A.x;** |
| **A.x = A.x + y;** |
| **}** |
| **public A(A k){** |
| **int y = 11;** |
| **A.x = A.x + y + k.y;** |
| **}** |
| **public A(int [] p){** |
| **int y = 11;** |
| **this.y = this.y - 20 + p[0];** |
| **A.x = A.x + p[0] + y;** |
| **p[0] = p[0] - 100;** |
| **}** |
| **public void printInfo(){** |
| **System.out.println(x + " " + y);** |
| **}** |
| **}** |

What is the output of the following code sequence? **[Answer on question paper]**

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| --- | --- | --- |
| **int [] x = {200};**  **A c1 = new A();**  **c1.printInfo();**  **A c2 = new A(c1);**  **c2.printInfo();**  **A c3 = new A(x);**  **c3.printInfo();**  **A c4 = new A(x);**  **c4.printInfo();** | **x** | **y** |
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