**CSE 201 – Advanced Programming**

**Tutorial Quiz – 1**

**15th September, 2016**

**Name:**

**Roll No.:**

1. Which of the following are valid constructors within a class Test.

1. test() { }
2. Test() { }
3. void Test() { }
4. private final Test() { }
5. abstract Test() { }
6. Test(Test t) { }
7. Test(void) { }

Ans: b and f

Why not:

final: because final means it can’t be overridden by any other class. But can a constructor be overridden: No.

abstract: abstract means it should not have a body, but when we use new for instantiating object, the constructor is implicitly called, therefore constructor must have body.

2. What is the output of this program?

int x,y = 1;

x = 10;

if (x != 10 && x/0 == 0)

System.out.println(y);

else

System.out.println(++y);

a) 1  
b) 2  
c) Runtime error owing to division by zero in if condition.  
d) Unpredictable behavior of program.

Ans: b

3. What value gets stored in variable var3?

int var1 = 5;

int var2 = 6;  
int var3;  
var3 = ++var2 \* var1 / var2 + var2;

a) 10  
b) 11  
c) 12  
d) 56

Ans: c

4. What is the result of compiling and running the following code?

public class Tester {

static int x = 4;

public Tester() {

System.out.print(this.x); // line 1

Tester();

}

public static void Tester() { // line 2

System.out.print(this.x); // line 3

}

public static void main(String... args) { // line 4

new Tester();

}

}

a) Compile error at line 1 (static x must be only accessed inside static methods)

b) Compile error at line 2 (constructors can't be static)

c) Compile error at line 3 (static methods can't invoke this)

d) Compile error at line 4 (invalid argument type for method main )

e) 44

Ans: c

5. Can you create a sub class to the following class?

Class A{

private A() {}

private A(int i) {}

}

Ans: No, The default constructor in A class should be visible to the child class.

6. What are the valid method signatures for overloading the method void sum(int a, int b)?

a) void sum(int a, int b, int c)

b) void sum(double a, double c)

c) int sum(int a, int c)

d) void sum(double a, double b, double c)

Ans: a,b and d, Only number of arguments/parameters or data type of parameters can be different.

7. The following code throws an error. Explain why and how to correct it.

class Base {

protected void foo() {}

}

class Derived extends Base {

void foo() {}

}

public class Main {

public static void main(String args[]) {

Derived d = new Derived();

d.foo();

}

}

Ans: Because foo() in Derived class has more restrictive access specifier. It can be corrected by using public or protected.

8. Which of the following are correct?

a) If an import statement is present, it must appear before any class or interface definitions.

b) The only statements that can appear before an import statement in a Java file are comments.

c) The method definitions inside interfaces are public and abstract. They cannot be private or protected.

d) class constructor may have public or protected keyword before them, nothing else.

Ans: a

Most of you got confused by word definitions in option c. But, that is how it is said. It is declared and defined there but without a body. Won’t penalize you.

9. What will be the output of the program?

public class X {

public static void main(String [] args) {

try {

badMethod();

System.out.print("A");

}

catch (RuntimeException ex) /\* Line 10 \*/

{

System.out.print("B");

}

catch (Exception ex1)

{

System.out.print("C");

}

finally

{

System.out.print("D");

}

System.out.print("E");

}

public static void badMethod()

{

throw new RuntimeException();

}

}

1. BD
2. BCD
3. BDE
4. BCDE

Ans: c

10. What is the difference between the Reader/Writer class hierarchy and theInputStream/OutputStream class hierarchy?

Ans: Reader/Writer is character oriented whereas theInputStream/OutputStream is byte oriented.

Note: 10th will not be graded.