Quiz : Working with Methods and Encapsulation

Attempt
1

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No	1
Domain	Other
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Incorrect	0
Unattempted	17
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Total	Total
All Domain	All Domain
Total Question	17
Correct	0
Incorrect	0
Unattempted	17
Marked for review	0

Review the Answers

Sorting by All

Question 1 Unattempted

Domain : Other

Given :

```
1.  class Whiz {
2.
3.      public static void main(String args[]) {
4.          Integer in = 10;
5.          System.out.print( method(in) );
6.      }
7.
8.      // insert here
9.          return c.toString();
10.     }
11. }
```

Choose the correct method signature for compilation to succeed?

A. private static String method(Object c) {

B. public String method(Object c) {

C. public static void method(Integer c) {

D. public String method(Number c) {

E. public static String method() {

Explanation:

Explanation:
Option A is the correct answer.

According to the method call on line 5, we could assume following things about the method we are trying to invoke;

- method name is "method"
- method should be static since it doesn't use any object reference.
- method should return string.
- method should be able to accept Integer wrapper.
- method can have any access level since they are in the same class.

Option A is correct since it is the only method which satisfies all above requirements. Object is super class of any class so with object as the argument type method can take any instance including Integer.

Reference : http://docs.oracle.com/javase/tutorial/java/javaOO/returnvalue.html

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Question 2 Unattempted

Domain : Other

Given

```
1.  class Animal{
2.          Animal(){
3.                  super();
4.          }
5.  }
6.
7.  class Bird extends Animal{
8.          private Bird(String name){
9.                  System.out.print(name);
```

```
10.             }
11.             Bird(){
12.                     System.out.print("unknown");
13.             }
14.     }
15.
16.     class Whiz{
17.             public static void main(String args[]){
18.                     new Bird("parrot");
19.             }
20.     }
```

Which is the output?

A. Unknown

B. parrot

C. unknown parrot

D. Compilation fails due to an error on line 18

E. Compilation fails due to an error on line 3

Explanation:

Explanation:

Option D is the correct answer.

At Line 18 , we are trying to invoke Bird class one argument constructor and it is marked as private, so it is illegal to try to create a Bird object from outside class with it's one argument constructor. So line 18 causes a compile time error. Hence option D is correct.

Options A, B and C are incorrect as the code fails to compile .

Option E is incorrect as there is no error at line 3.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/constructors.html

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Question 3 Unattempted

Domain : Other

Given :

```
1.  package one;
2.
3.  import whiz.A;
4.
5.  public class Whiz extends A{
6.
7.      public static void main(String args[]){
8.          Whiz wh = new Whiz();
9.          wh.print(5);
10.     }
11.
12.     public void print(int x){
13.         A a = new A();
14.         System.out.println(a.x);
15.     }
16. }
```

```
1  //Following source is in different source file
```

```
17. package whiz;
18.
```

```
19. public class A {
20.         protected int x = 10;
21. }
```

What is the output?

A. 10

B. 5

C. 0

D. Compilation fails due to error on line 14 ✓

E. Compilation fails due to multiple errors

Explanation:

Explanation:

Option D is the correct answer.

Option D is correct as the protected variables can be only access through inheritance. So trying to access the variable "x", using object reference at line 14 causes a compile time error.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/accesscontrol.html

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Question 4 Unattempted

Domain : Other

Which is correct?

A. The access modifier "private" can be used with every class

B. The access modifier "protected" can be used with every class

C. The only access modifier which can be used inside a method is public

D. Default access level is less restrictive than the protected access level

E. None of above

Explanation:

Explanation:

Option E is the correct answer.

Options A, B are incorrect because private and protected can't be used with top level classes. Only public or default (no explicit modifier) can be used with top level classes.

Option C is incorrect as no access modifier can be used inside a method.

Option D is incorrect as default access level is restrictive than the protected access level.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/accesscontrol.html

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Question 5 Unattempted

Domain : Other

Which statement is correct?

A. Inner classes don't have access to private members of the enclosing class.

B. Inner class can't be declared with the "private" access modifier.

C. Method local classes can access any local variable.

D. A static nested class is behaviorally a top-level class.

E. None of the above.

Explanation:

Explanation:
Option D is the correct answer.

Option D is correct as a static nested class interacts with the instance members of its outer class (and other classes) just like any other top-level class. In effect, a static nested class is behaviorally a top-level class that has been nested in another top-level class for packaging convenience.

Option A is incorrect as inner classes have access to private members of the enclosing class.

Option B is incorrect because Member inner classes , static nested classes can be declared with private access modifier but Method local classes , anonymous inner classes can't be declared with private access modifier.

Option C is incorrect as method local classes do not have access to local variables of a method unless those variables are final or effectively final.

Reference : http://docs.oracle.com/javase/tutorial/java/javaOO/innerclasses.html

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Question 6 Unattempted

Domain : Other

Given the following code :

```
1. class Ex1 {
2.
3.      public static void main(String args[ ]) {
4.            char c = 'A'; //ASCII value of 'A'is 65.
5.            System.out.print( aval(c) );
6.      }
7.
8.      //here
9.            int x = c;
10.           return x;
11.     }
12.
13. }
```

Choose the correct method signature for compilation to succeed?

A. private static int aval(char c){ ✓

B. public int aval(char c){

C. public static void aval(char c){

D. public char aval(char c){

E. public char aval(){

Explanation:

Explanation:
Option A is the correct answer.

According to the method call on line 5, we could assume following things about the method we are trying to invoke-

method name is "aval'

method should be static since it doesn't use any object reference.

method should return something, because if method returns nothing then a compile time error occur.

method should be able to char value.

method can have any access level since they are in the same class.

Option A is correct since it is the only method which satisfies all above requirements.

Option B, D and E are incorrect as those methods are not static.

Option C is incorrect since it doesn't return anything.

Reference:
http://docs.oracle.com/javase/tutorial/java/javaOO/returnvalue.html

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Question 7 Unattempted

Domain : Other

Given

```
1.  public class Whiz{
2.
3.      public static void main(String args[]){
4.          int []ary = {1,2,3};
5.          change(ary[2]);
6.          change(ary);
7.          System.out.println(ary[1]+ary[2]);
8.      }
9.
10.     public static void change(int x){
11.         x = 1;
12.     }
13.
14.     public static void change(int x[]){
15.         x[1] = 0;
16.     }
17. }
```

Which will be the result?

A. 1

B. 3 ✓

C. 4

D. 5

E. Compilation fails

Explanation:

Explanation:

Option B is the correct answer.

In Java, Primitive arguments, such as an int or a double, are passed into methods by value. This means that any changes to the values of the parameters exist only within the scope of the method. When the method returns, the parameters are gone and any changes to them are lost. So our array third element doesn't get changed which is 3.
Reference data type parameters, such as objects, are also passed into methods by value. This means that when the method returns, the passed-in reference still references the same object as before. However, the values of the object's fields can be changed in the method, if they have the proper access level. So here the change method which takes int array will change the value of second element to zero. Now array elements are ary[0]=1, ary[1]=0, ary[2]=3. So output is 3, hence option B is correct.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/arguments.html

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Question 8 Unattempted

Domain : Other

Given :

```
1.  class En {
2.      public int i;
3.      public char c;
4.      public static void main(String [ ] args) {
5.          //codes
6.      }
7.      private int getI() {
8.          return i;
9.      }
10. }
```

Which of the following can be considered as true about above code?
I. This code has correctly implemented the encapsulation principals.
II. This "getI" method at line 7, has correctly implemented the encapsulation principals but not the variables.
III. Variables in this code have correctly implemented the encapsulation principals but not the "getI" method.

A. I only

B. II only

C. I and II only

D. I and III only

E. None.

Explanation:

Explanation :
Option E is the correct answer.

Statement I, II and III are incorrect as both methods and variables in this class doesn't implement the encapsulation principals. Here all variables are declared as public which allows anyone to modify variables without using methods and also methods have declared to be private which should have declared as public.

Option E is correct since all statements are incorrect.

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Question 9 Unattempted

Domain : Other

Given :

```
1.  package first;
2.
3.  public class A {
4.      protected int j;
```

```
5.          // some codes
6.          public void change() {
7.                  j = 12;
8.          }
9.      }
```

```
10. package second;
11. import first.*;
12.
13. class B extends A {
14.         int x = j;
15.         public static void main(String [ ] args) {
16.                 A a = new A();
17.                 a.change();
18.                 System.out.print(a.j);
19.         }
20. }
```

Note: two packages are defined in two source codes.
What is the output when compiling class B?

A. 12

B. 0

C. Compilation fails due to error on line 16.

D. Compilation fails due to error on line 18.

E. Compilation fails due to multiple errors.

Explanation:

Explanation :
Option D is the correct answer.

Option D is correct. You get compile time error at line 18, because Super class variable access modifier is protected. It can be accessed by sub class object's references. You can't access with super class object's references in another package. If sub class is in same package as super class , you don't get error at line 18. But here sub class is in different package.

As code fails to compile option A and B are incorrect.

Option C is incorrect as we can create a class A object because class A is public.

Reference : http://docs.oracle.com/javase/tutorial/java/javaOO/accesscontrol.html

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Question 10 Unattempted

Domain : Other

You are asked to create a method which should satisfy the following requirements.
Method should be in package access level. It should take integer array only. It should return an int.
Name of the method should be "find". And it should be an instance Method.

A. private static int find(int []c)

B. static void find(int []c)

C. int find(int []c)

D. public int[] find(intc)

E. static int find()

Explanation:

Explanation:

Option C is the correct answer.

According to the given description, only the "intfind(int []c)" signature satisfies all given requirements. So option C is correct.

Option A is incorrect as it is a static method because it uses the static keyword and it also use private access modifier.

Option B is incorrect as it is not instance method and also it doesn't return int.

Option E is incorrect as it is a static method and it also takes no argument.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/returnvalue.html

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Question 11

Unattempted

Domain : Other

Given following method :

public void overloadMe() [ ]

Which of the following method signature overload above method?

A. private int overloadMe(String s)

B. int overloadMe()

C. private void overloadMe()

D. public static void overloadMe()

E. None of the above.

Explanation:

Explanation:
Option A is the correct answer.

When method overloading we should change the argument list. It is optional to change return type or access level.

Here only option A changes the argument list, hence option A is correct.

Reference : https://docs.oracle.com/javase/tutorial/java/javaOO/methods.html

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Question 12

Unattempted

Domain : Other

Given :

```
1.  public class Whiz{
2.
3.      public static void main(String args[]){
4.          A ab = new B();
5.          System.out.println(ab.calc(2.0, 3.1));
6.      }
7.  }
8.
9.  class A{
10.     public int calc(int a, int b){
11.         return a+b;
12.     }
13. }
14.
15. class B extends A{
16.     public double calc(double a, double b){
17.         return a+b;
18.     }
19. }
```

What is the output?

A. 5

B. 5.1

C. 5.0

D. An Exception

E. Compilation fails

Explanation:

Explanation:

Option E is the correct answer.

Code fails to compile due to line 5, when invoking overload methods compiler check the reference and see if such a method exists in the reference type. So here when the compiler finds that there is no method with name calc that can take two doubles in reference type compiler complains. So option E is correct.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/returnvalue.html

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Question 13 Unattempted

Domain : Other

Given :

```
1.  class Ab{
2.     protected void meth1(){
3.           System.out.print("base version");
4.           }
5.     }
6.
7.  class Cd extends Ab{
8.     final void meth1(int i){
9.           System.out.print("int version");
10.          }
11.
12. void meth1(double d){
13.          System.out.print("double version");
14.          }
```

```
15.
16.     void meth1(char c){
17.             System.out.print("char version");
18.             }
19.      }
20.
21.  class Whiz{
22.     public static void main(String [] args){
23.             Cd ab = new Cd();
24.             ab.meth1(5);
25.             }
26.     }
```

What is the output ?

A. int version ✓

B. double version

C. char version

D. Compilation fails due to one error

E. Compilation fails due to multiple errors

Explanation:

Explanation:

Option A is the correct answer.

Which overloaded method is invoked is decided by the reference type, so here actual Cd object has Cd reference and Cd class has a meth1() method which can take int as an argument. So **meth1(int i)** method will be invoked. So the output will be “int version” therefore option A is correct.

Other options are incorrect based on above explanation.

Reference : http://docs.oracle.com/javase/tutorial/java/javaOO/methods.html

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Question 14 Unattempted

Domain : Other

Given

```
1.  public class Ex1{
2.      final int j = 32;
3.
4.      public static void main(String args[]){
5.          char c = 'A'; //ASII value of 'A' is 65 and 'a' is 97
6.          System.out.print((char)calc(c));
7.      }
8.
9.      static int calc(int i){
10.         return (i+j);
11.     }
12. }
```

What is the output?

A. 97

B. a

C. A

D. Compilation fails due to error on line 6

E. Compilation fails due to error on line 10

Explanation:

Explanation:

Option E is the correct answer.

Option E is correct as trying to access instance variable "j" from static method "calc" causes a compile time error. So line 10 will cause a compile time error.

Options A, B and C are incorrect since the code fails to compile.

Option D is incorrect as line 6 is completely legal.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/classvars.html

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Question 15 Unattempted

Domain : Other

Which are true?

A. Instance methods can access instance variables and instance methods directly ✓

B. Instance methods can't access class variables and class methods directly

C. Class methods can access Instance variables and Instance methods directly

D. Both class methods and instance methods can use the keyword "this"

E. None of above

Explanation:

Explanation:

Option A is the correct answer

Option A is correct as instance methods can access instance variables and instance methods directly.

Option B is incorrect as instance methods can access class variables and class methods directly.

Option C is incorrect as class methods can't access instance variables and instance methods directly.

Option D is incorrect as static content can never use this since static content does not belong to any instance, it belongs to a class.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/classvars.html

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Question 16 Unattempted

Domain : Other

Given

```
1.  public class Whiz {
2.
3.      static int i;
4.
5.      public static void main(String[] args) {
6.          Whiz w1 = new Whiz();
7.          Whiz w2 = new Whiz();
8.          Whiz w3 = new Whiz();
9.          w1.method();
10.         w2.method();
11.         w3.method();
12.     }
13.
14.     public void method() {
15.         while(++i < 3) {
16.             System.out.print("A");
```

```
17.                    }
18.                }
19.            }
```

What is the output?

A. AAAAAA

B. AA

C. No output

D. Compilation fails due to error on line 15

E. Compilation fails due to multiple errors

Explanation:

Explanation:
Option B is the correct answer.

Static variable "i" at line 3 has default value "0" as we have not given any specific value. So when the "method()" invokes first time using "w1" object reference, while loop executes and will print "A" twice. Since the variable "i" is static "w2" and "w3" objects see variable "i" with value larger than 3, so when using "w2" and "w3" for invoking the "method()", while loop will not execute.

The output only contains two "A"s as explained above, so option B is correct.

Option A is incorrect, it would be correct if the variable "i" was an instance variable.

Options D and E are incorrect as the code compiles fine.

Reference : http://docs.oracle.com/javase/tutorial/java/javaOO/classvars.html

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Question 17

Unattempted

Domain : Other

Which is/are correct? *(Choose 2)*

A. If there is no user defined constructor, a default constructor is created ✓

B. The default constructor has only the statement "this()"

C. If we create a constructor , then the default constructor won't be created. ✓

D. The default constructors' name is same as the class's' name but user defined constructors may have different names

E. We can write two constructors that have the same number and type of arguments in the same order for the class

Explanation:

Options A and C are the correct answer.

Option A is correct as the compiler provides a default constructor If there is no user defined constructor

Option C is correct as when we specify a constructor then there will be no default constructor created.

Option B is incorrect as default constructor has only "super()" call.

Option D is incorrect as any constructor, no matter user defined or default, all must have same name as class name.

Option E is incorrect as it is illegal to have two constructors with same argument list.

Reference :http://docs.oracle.com/javase/tutorial/java/javaOO/constructors.html

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