PROGRAMMING IN JAVA

Assignment3

TYPE OF QUESTION: MCQ

Number of questions: 15   **Total mark: 15 × 1 = 15**

QUESTION 1:

Which of the following is**true** about the break statement in Java?

a. Break stops the execution of entire program.
b. Break halts the execution and forces the control out of the loop.
c. Break forces the control out of the loop and starts the execution of next iteration.
d. Break halts the execution of the loop for certain time frame.

Correct Answer:b

Detailed Solution:
A break statement inside a loop will terminate the loop execution and the control jumps to the statement immediately after the last statement in the loop.

QUESTION 2:

Which of the following is usually used with the switch statement?

a. continue
b. exit
c. break
d. do

Correct Answer:c

Detailed Solution:
A break statement inside a switch statement is possible. It returns the control out of the switch construct.

QUESTION 3:

Which of these is used by operating system to manage the Recursion in Java?

a. Array
b. Stack

c. Queue

d. Tree

Correct Answer:b

Detailed Solution:

A stack is internally used by the Java run time manager to execute a recursive method.

QUESTION 4:

Carefully trace the following piece of code written in Java.

```
class A{
staticintx = 100;
A() {
x++;
System.out.println(x);
}
}
classB    {
public static void main(String[] args)
A a1 = new A();
      A a2 = new A();
   }
}
```

What will be the correct output from the above program.

a. 100
   101

b. 101
   102

c. 100
   100

d. 100
   103

Correct Answer:b

Detailed Solution:
There will be only one instance of the static variable. Further, the initialization of variable takes place only once. So, for a1 it prints 101 whereas for a2 it prints 102.

QUESTION 5:

Which of the following statements is/ are incorrect?

a. public members of a class can be accessed by any code in the program.
b. private members of class can only be accessed any members in the same class.
c. private members of a class can be inherited by a subclass, and become protected members in subclass
d. protected members of a class can be inherited by a subclass, and become private members of the subclass.

Correct Answer:c

Detailed Solution:
A private member can be inherited in a sub class, however, no method in the sub class can access the member.

QUESTION 6:

Which of the following access specifier must be used for class so that a sub class can inherit it?

a. public
b. private
c. protected
d. default

Correct Answer:a

Detailed Solution:
Only pubic class can be inherited.

QUESTION 7:

A class member declared as protected becomes member of subclass of which type?

a. public member
b. private member
c. protected member
d. default member

Correct Answer: b

Detailed Solution:
Aclass member declared protected becomes private member of its subclass.
_____

QUESTION 8:

Which inheritance in Java programming is not supported?

a. Multiple inheritance using classes.
b. Multiple inheritance using interfaces.
c. Multilevel inheritance.
d. Single inheritance.

Correct Answer: a

Detailed Solution:
Java does not support multiple inheritance of classes but it supports **multiple inheritance** for interfaces. Means, a class cannot inherit more than one class but it can inherit and implement multiple interfaces.
_____

QUESTION 9:

How can a protected member be accessed?

a. Accessible only within the class.
b. Accessible only within package.
c. Accessible within the package as well as outside the package but through inheritance only.
d. Accessible to everywhere**.**

Correct Answer:c

Detailed Solution:
A protected member is accessible to any sub class of the class.

QUESTION 10:

Order of execution of constructors in Java Inheritance is

a. Base to derived class.
b. Derived to base class.
c. Random order.
d. No execution of a constructor in the derived class.

Correct Answer: a

Detailed Solution:
On object creation of derived class, first base class constructor and then derived class constructor will be called.

QUESTION 11:

Which of this keyword can be used in a subclass to call the constructor of superclass?

a. super
b. this
c. extent
d. extends

Correct Answer:a

Detailed Solution:
Using the super keyword, we can explicitly call a base class constructor.

QUESTION 12:

Advantage(s) of inheritance in Java programming is/are

a. Code sharing
b. Codemaintainability
c. Code reusability
d. All of the above

Detailed Solution:
In fact, above benefits are related to each other. Frequent use of inheritance in Java language is for deriving classes from existing classes that provides reusability. In simple terms, once we have written a class then it can be extended or sub classed without changing the code of base class.

QUESTION 13:

For each description on the left, find the best matching modifier on the right. You may use a choice more than once or not at all.

1. Hides the instance variable from code in other files.		A. private
2. Hides the method from code in other files.		B. public
3. Hides the subclass from code in other files.		C. final
4. Exposes the API method to code in other files.		D. static
5. Prevents the value of the instance variable from being Changed once initialized.		E. none of the above

a. 1-A,2-A,3-C,4-D,5-E
b. 1-A,2-A,3-A,4-B,5-C
c. 1-C,2-B,3-A,4-A,5-D
d. None of Above

Correct Answer: b

Detailed Solution:
This matching is as per the general rule of the access specifiers in Java.

QUESTION 14:

If there is an abstract method in a class then,

a. Class must be abstract class.
b. No object of the class can be created.
c. Any sub class of the class may or may be abstract class.
d. All of the above.

Correct Answer:d

Detailed Solution:

It is a rule that if a class has even one abstract method, it must be an abstract class. No object can be created for an abstract class. Further, if a class is derived from an abstract class and the abstract method is not defined in the base class, then the derived class is also abstract class.

_____

QUESTION 15:

Suppose the class *Undergraduate* extends the class *Student* which extends the class *Person*. Given the following variable declaration:

```
Person p = new Person();

Student s = new Student();

Undergraduate ug = new Undergraduate();
```

Which of the following assignments are legal?

    I. p = ug;
   II. p = new Undergraduate();
  III. ug = new Student();
  IV. ug = p;
   V. s = new Person();

  a. I and IV
  b. III, II and IV
  c. I and II
  d. III and IV

Correct Answer: c

Detailed Solution:
Up casting is possible, that is, any derived class object can be assigned to its base class but opposite is not possible.

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