**JAVA**

**[1] basic**

**1.1** which of the following is not a primitive type?

ㅊ

[anw] b 🡪 기본형은 boolean, byte, short, char, int, long, float, double 모두 8개이다. 그 외의 타입은 모두 참조형(reference type)이다.

**1.2** Write down the output result of the following sentence. For sentences with errors, write 'error'.

System.out.println("1" + "2")

[anw] 12

**1.3** Write down the output result of the following sentence. For sentences with errors, write 'error'.

System.out.println(true + "")

[anw] true

**1.4**. Write down the output result of the following sentence. For sentences with errors, write 'error'.

System.out.println('A' + 'B')

[anw] 131

**1.5** Write down the output result of the following sentence. For sentences with errors, write 'error'.

System.out.println('1' + 2)

[anw] 51

**1.6** Write down the output result of the following sentence. For sentences with errors, write 'error'.

System.out.println('1' + '2')

[anw] 99

**1.7** Write down the output result of the following sentence. For sentences with errors, write 'error'.

System.out.println('J' + 'ava')

[anw] Java

**1.8** Write down the output result of the following sentence. For sentences with errors, write 'error'.

System.out.println(true + null)

[anw] 오류

**1.9** Choose all of the following that are not your own.

a) if b) True c) Null d) class e) System

[anw] b, c, d, e 🡪 True is a keyword, but True is not, because Java is case-sensitive. The following keywords are used in Java.

**1.10** Which of the following can be used as a variable?

a) channel#5 b) new c) 7eleven d)hello\_java

[anw] d

**1.11** True of False?

The names of variables are case sensitive and have no limit on length.

[anw] True

**1.12** True of False?

The name of variable can start with a number.

[anw] False

**1.13** What is the primitive type of the same size as the reference type?

a) int b) long c) short d) double

[anw] a 🡪 all reference type is 4 byte

**1.14** Error or not?

byte b = 256;

[anw] error 🡪 byte cannot be initialized beyond the range (-128~127)

**1.15** Error or not?

char answer = ‘no’ ;

[anw] error 🡪 char cannot have two character

**1.16** Which of the following is a declaration of the main method? (Choose all)

a) public static void main(String[] args)

b) public static void main(String args[]) c) public static void main(String[] arv)

d) public void static main(String[] args) e) static public void main(String[] args)

[anw] a, b, c, e 🡪 String[]args[] and Stringargs[] mean the same thing because the symbol "[]" can be pasted after the type or after the variable name.

**1.17** Write down the value of the next operation.

class Exercise {

public static void main(String[] args) {

int x = 2;

int y = 5;

System.out.println(y += 10 - x++);

}

}

[anw] True

**1.18** Write down the value of the next operation.

class Exercise {

public static void main(String[] args) {

int x = 2;

int y = 5;

char c = 'A'; // 'A'의 문자코드는 65

}

}

**1.19** Write down the value of the next operation.

class Exercise {

public static void main(String[] args) {

int x = 2;

System.out.println(x+=2);

}

}

[anw] 4

**1.20** Write down the value of the next operation.

class Exercise {

public static void main(String[] args) {

char c = 'A'; // 'A'의 문자코드는 65

System.out.println(c+1);

}

}

[anw] 66

**1.21** Write down the value of the next operation.

class Exercise {

public static void main(String[] args) {

char c = 'A'; // 'A'의 문자코드는 65

System.out.println(++c);

}

}

[anw] B 🡪 Unlike binary operators, the unary operator '++' does not convert the shape of a type smaller than int.

**1.22**

class Exercise {

public static void main(String[] args) {

int num = 456;

System.out.println( /\* (1) \*/ );

}

}

Result : 400

[anw] num/100 \* 100

**1.23** Write down the value of the next operation.

class Exercise {

public static void main(String[] args) {

char c = 'A'; // 'A'의 문자코드는 65

System.out.print(c++);

System.out.print(c);

}

}

[anw] CD

**[2] Conditional statements and repeat statements**

**2.1** Wirte the result of this program.

for(int i=1; i<10; i+=2){

System.out.print(i+" ");

}

[anw] 1 3 5 7 9

**2.2** Choose one that has a different result

① for(int i=0; i<10; i++) sum += i;

② for(int i=9; i>0; i--) sum += i;

③ for(int i=0; i>10; i++) sum++;

④ for(int i=0; i<10; sum += i, i++);

[anw] 3 🡪 If i is zero and i is greater than 10, then it is not repeated, and in sum++, the value is also different because it is added by one.

**2.3** Choose the one that cannot be underlined in the following code.

int sum=0, i=1;

while (i < 100) {

if(i%3 !=0) {

i++;

\_\_\_\_\_\_\_\_\_ ;

}

else sum += i;

i++;

}

[anw] continue

**2.4** True of False? ‘ During the iteration, when a break statement is encountered, it escapes the repeat statement.’

[anw] True

**2.5** True of False? ‘During the iteration, when a continue statement is encountered, it returns to the beginning of the iteration.’

[anw] True

**2.6** True of False? ‘You cannot put an if statement in an if statement.’

[anw] False 🡪 available

**2.7** True of False? ‘”break” can be omitted from switch/case statements.’

[anw] False

**2.8** Which of these selection statements test only for equality?  
a) if  
b) switch  
c) if & switch  
d) none of the mentioned

[anw] b 🡪 Switch statements checks for equality between the controlling variable and its constant cases.

**2.9** Which of these are selection statements in Java?  
a) if()  
b) for()  
c) continue  
d) break

[anw] a 🡪 Continue and break are jump statements, and for is a looping statement.

**2.10** Which of the following loops will execute the body of loop even when condition controlling the loop is initially false?  
a) do-while  
b) while  
c) for  
d) none of the mentioned

[anw] a

**2.11** Which of this statement is incorrect?  
a) switch statement is more efficient than a set of nested ifs  
b) two case constants in the same switch can have identical values  
c) switch statement can only test for equality, whereas if statement can evaluate any type of boolean expression  
d) it is possible to create a nested switch statements

[anw] b 🡪 No two case constants in the same switch can have identical values.

**2.12** Which of these jump statements can skip processing the remainder of the code in its body for a particular iteration?  
a) break  
b) return  
c) exit  
d) continue

[anw] d

**2.13**  What will be the output of the following Java program?

1. **class** selection\_statements
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** var1 = 5;
6. **int** var2 = 6;
7. **if** ((var2 = 1) == var1)
8. System.out.print(var2);
9. **else**
10. System.out.print(++var2);
11. }
12. }

a) 1  
b) 2  
c) 3  
d) 4

[anw] b 🡪 var2 is initialised to 1. The conditional statement returns false and the else part gets executed.

**2.14** What will be the output of the following Java program?

1. **class** comma\_operator
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** sum = 0;
6. **for** (**int** i = 0, j = 0; i < 5 & j < 5; ++i, j = i + 1)
7. sum += i;
8. System.out.println(sum);
9. }
10. }

a) 5  
b) 6  
c) 14  
d) compilation error

[anw] b 🡪 Using comma operator, we can include more than one statement in the initialization and iteration portion of the for loop. Therefore both ++i and j = i + 1 is executed i gets the value – 0,1,2,3,4 & j gets the values -0,1,2,3,4,5.

**2.15** What will be the output of the following Java program?

1. **class** jump\_statments
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** x = 2;
6. **int** y = 0;
7. **for** ( ; y < 10; ++y)
8. {
9. **if** (y % x == 0)
10. **continue**;
11. **else** **if** (y == 8)
12. **break**;
13. **else**
14. System.out.print(y + " ");
15. }
16. }
17. }

a) 1 3 5 7  
b) 2 4 6 8  
c) 1 3 5 7 9  
d) 1 2 3 4 5 6 7 8 9

[anw] c 🡪 Whenever y is divisible by x remainder body of loop is skipped by continue statement, therefore if condition y == 8 is never true as when y is 8, remainder body of loop is skipped by continue statements of first if. Control comes to print statement only in cases when y is odd.

**2.16** What will be the output of the following Java program?

1. **class** Output
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **final** **int** a=10,b=20;
6. **while**(a<b)
7. {
9. System.out.println("Hello");
10. }
11. System.out.println("World");
13. }
14. }

a) Hello  
b) run time error  
c) Hello world  
d) compile time error

[anw] d 🡪 Every final variable is compile time constant.

**2.17** What will be the output of the following Java program?

1. **class** Output
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** a = 5;
6. **int** b = 10;
7. first:
8. {
9. second:
10. {
11. third:
12. {
13. **if** (a == b >> 1)
14. **break** second;
15. }
16. System.out.println(a);
17. }
18. System.out.println(b);
19. }
20. }
21. }

a) 5 10  
b) 10 5  
c) 5  
d) 10

[anw] d 🡪 b >> 1 in if returns 5 which is equal to a i:e 5, therefore body of if is executed and block second is exited. Control goes to end of the block second executing the last print statement, printing 10.

**2.18** What would be the output of the following code snippet if variable a=10?

1. **if**(a<=0)
2. {
3. **if**(a==0)
4. {
5. System.out.println("1 ");
6. }
7. **else**
8. {
9. System.out.println("2 ");
10. }
11. }
12. System.out.println("3 ");

a) 1 2  
b) 2 3  
c) 1 3  
d) 3

[anw] d 🡪 Since the first if condition is not met, control would not go inside if statement and hence only statement after the entire if block will be executed.

**2.19** The while loop repeats a set of code while the condition is not met?  
a) True  
b) False

[anw] b 🡪 While loop repeats a set of code only until the condition is met.

**2.20** What is true about a break?  
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  
[anw] b 🡪 Break halts the execution and forces the control out of the loop.

**[3] array**

**3.1** What is wrong with the following array declaration?

① int [] n = {1, 2, 3, 4, 5};

② int n [] = { 0 };

③ int [] n = new int [3];

④ int n[3] = new int [3];

[anw] 4 🡪 Cannot specify the size of [] at the same time as the declaration on the left.

**3.2** which one occurs error during execution for the following code?

int array[] = {1,2,3,4,5 };

① array[0] = -1;

② int list [] = array;

③ System.out.println(array[4]);

④ array[array.length] = 100;

[anw] 4 🡪 For length, the length method does not match the pre-declared value.

**3.3** True of False? ‘The index of the array starts with 1’.

[anw] False 🡪 start with 0

**3.4** Which of these operators is used to allocate memory to array variable in Java?

a) malloc

b) alloc

c) new

d) new malloc

[anw] c 🡪 Operator new allocates a block of memory specified by the size of an array, and gives the reference of memory allocated to the array variable.

**3.5** Which of these is an incorrect array declaration?

a) int arr[] = new int[5]

b) int [] arr = new int[5]

c) int arr[] = new int[5]

d) int arr[] = int [5] new

[anw] d 🡪 Operator new must be succeeded by array type and array size.

**3.6** What will be the output of the following java code?



[anw] d --> If we trying to print any reference variable internally, toString() will be called which is implemented to return the String in following form:

classname@hashcode in hexadecimal form

**3.7** Which of these is an incorrect Statement?

a) It is necessary to use new operator to initialize an array

b) Array can be initialized using comma separated expressions surrounded by curly braces

c) Array can be initialized when they are declared

d) None of the mentioned

[anw] a -->Array can be initialized using both new and comma separated expressions surrounded by curly braces example : int arr[5] = new int[5]; and int arr[] = { 0, 1, 2, 3, 4};

**3.8** Which of these is necessary to specify at time of array initialization?

a) Row

b) Column

c) Both Row and Column

d) None of the mentioned

[anw] a

**3.9** What will be the output of the following Java code?

class array\_output

{

public static void main(String args[])

{

int array\_variable [] = new int[10];

for (int i = 0; i < 10; ++i)

{

array\_variable[i] = i;

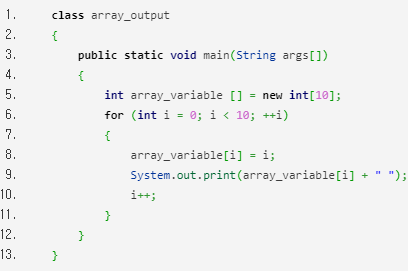
System.out.print(array\_variable[i] + " ");

i++;

}

}

}



a) 0 2 4 6 8

b) 1 3 5 7 9

c) 0 1 2 3 4 5 6 7 8 9

d) 1 2 3 4 5 6 7 8 9 10

[anw] a --> When an array is declared using new operator then all of its elements are initialized to 0 automatically. for loop body is executed 5 times as whenever controls comes in the loop i value is incremented twice, first by i++ in body of loop then by ++i in increment condition of for loop.

**3.10** What will be the output of the following Java code?

1. **class** multidimention\_array
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** arr[][] = **new** **int**[3][];
6. arr[0] = **new** **int**[1];
7. arr[1] = **new** **int**[2];
8. arr[2] = **new** **int**[3];
9. **int** sum = 0;
10. **for** (**int** i = 0; i < 3; ++i)
11. **for** (**int** j = 0; j < i + 1; ++j)
12. arr[i][j] = j + 1;
13. **for** (**int** i = 0; i < 3; ++i)
14. **for** (**int** j = 0; j < i + 1; ++j)
15. sum + = arr[i][j];
16. System.out.print(sum);
17. }
18. }

a) 11  
b) 10  
c) 13  
d) 14

[anw] b 🡪 arr[][] is a 2D array, array has been allotted memory in parts. 1st row contains 1 element, 2nd row contains 2 elements and 3rd row contains 3 elements. each element of array is given i + j value in loop. sum contains addition of all the elements of the array.  
output:

**3.11** What will be the output of the following Java code?

1. **class** evaluate
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** arr[] = **new** **int**[] {0 , 1, 2, 3, 4, 5, 6, 7, 8, 9};
6. **int** n = 6;
7. n = arr[arr[n] / 2];
8. System.out.println(arr[n] / 2);
9. }
10. }

a) 3  
b) 0  
c) 6  
d) 1

[anw] d 🡪 Array arr contains 10 elements. n contains 6 thus in next line n is given value 3 printing arr[3]/2 i:e 3/2 = 1 because of int Value, by int values there is no rest. If this values would be float the result would be 1.5.

**3.12** What will be the output of the following Java code?

1. **class** array\_output
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **char** array\_variable [] = **new** **char**[10];
6. **for** (**int** i = 0; i < 10; ++i)
7. {
8. array\_variable[i] = 'i';
9. System.out.print(array\_variable[i] + "");
10. }
11. }
12. }

a) 1 2 3 4 5 6 7 8 9 10  
b) 0 1 2 3 4 5 6 7 8 9 10  
c) i j k l m n o p q r  
d) i i i i i i i i i i  
[anw] d

**3.13** What will be the output of the following Java code?

1. **class** array\_output
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** array\_variable[][] = {{ 1, 2, 3}, { 4 , 5, 6}, { 7, 8, 9}};
6. **int** sum = 0;
7. **for** (**int** i = 0; i < 3; ++i)
8. **for** (**int** j = 0; j < 3 ; ++j)
9. sum = sum + array\_variable[i][j];
10. System.out.print(sum / 5);
11. }
12. }

a) 8  
b) 9  
c) 10  
d) 11

[anw] b

**3.14** Arrays in Java are implemented as?  
a) class  
b) object  
c) variable  
d) none of the mentioned

[anw] b

**[4] Oriented programming**

**4.1** Choose the one that cannot be underlined in the following code.

\_\_\_ class ATestClass {

public static void main(String[] argv) {

q}

}

a) public b) private c) abstract d) final

[anw] 2 🡪 private of static cannot not be used in Class declaration

**4.2** Which of the following statements about the main() method is incorrect?

① Defula is ‘public abstract void main(String [] args)’.

② Java programs start running from the main() method.

③ If the command line is java Hello abc 5, "abc" and "5" are made of strings and passed to the main() method within the Hello class.

④ When the command line is java Hello abc 5, if there is no main() method in the Hello class, exit with an error immediately after the execution starts.

[anw] 1 🡪 It should contain static, not abstract.

**4.3** Which of the following is not OOPS concept in Java?  
a) Inheritance  
b) Encapsulation  
c) Polymorphism  
d) Compilation  
[anw] d 🡪 There are 4 OOPS concepts in Java. Inheritance, Encapsulation, Polymorphism and Abstraction.

**4.4** Which of the following is a type of polymorphism in Java?  
a) Compile time polymorphism  
b) Execution time polymorphism  
c) Multiple polymorphism  
d) Multilevel polymorphism

[anw] a 🡪 There are two types of polymorphism in Java. Compile time polymorphism (overloading) and runtime polymorphism (overriding).

**4.5** When does method overloading is determined?  
a) At run time  
b) At compile time  
c) At coding time  
d) At execution time

[anw] b 🡪 Overloading is determined at compile time. Hence, it is also known as compile time polymorphism.

**4.6** When Overloading does not occur?  
a) More than one method with same name but different method signature and different number or type of parameters  
b) More than one method with same name, same signature but different number of signature  
c) More than one method with same name, same signature, same number of parameters but different type  
d) More than one method with same name, same number of parameters and type but different signature

[anw] d 🡪 Overloading occurs when more than one method with same name but different constructor and also when same signature but different number of parameters and/or parameter type.

**4.7** Which concept of Java is a way of converting real world objects in terms of class?  
a) Polymorphism  
b) Encapsulation  
c) Abstraction  
d) Inheritance

[anw] c 🡪 Abstraction is the concept of defining real world objects in terms of classes or interfaces.

**4.8** Which concept of Java is achieved by combining methods and attribute into a class?  
a) Encapsulation  
b) Inheritance  
c) Polymorphism  
d) Abstraction

[anw] a 🡪 Encapsulation is implemented by combining methods and attribute into a class. The class acts like a container of encapsulating properties.

**4.9** What is it called if an object has its own lifecycle and there is no owner?  
a) Aggregation  
b) Composition  
c) Encapsulation  
d) Association

[anw] d 🡪 It is a relationship where all objects have their own lifecycle and there is no owner. This occurs where many to many relationships are available, instead of one to one or one to many.

**4.10** What is it called where child object gets killed if parent object is killed?  
a) Aggregation  
b) Composition  
c) Encapsulation  
d) Association

[anw] b 🡪 Composition occurs when child object gets killed if parent object gets killed. Aggregation is also known as strong Aggregation.

**4.11**  What is it called where object has its own lifecycle and child object cannot belong to another parent object?  
a) Aggregation  
b) Composition  
c) Encapsulation  
d) Association

[anw] a 🡪 Aggregation occurs when objects have their own life cycle and child object can associate with only one parent object.

**4.12**  Method overriding is combination of inheritance and polymorphism?  
a) True  
b) false

[anw] a 🡪 In order for method overriding, method with same signature in both superclass and subclass is required with same signature. That satisfies both concepts inheritance and polymorphism.

**4.13** Which of these keywords is used to prevent content of a variable from being modified?  
a) final  
b) last  
c) constant  
d) static

[anw] a 🡪 A variable can be declared final, doing so prevents its content from being modified. Final variables must be initialized when it is declared

**4.14**  Which of these cannot be declared static?  
a) class  
b) object  
c) variable  
d) method

[anw] b 🡪 static statements are run as soon as class containing then is loaded, prior to any object declaration.

**4.15** Which of the following statements are incorrect?  
a) static methods can call other static methods only  
b) static methods must only access static data  
c) static methods can not refer to this or super in any way  
d) when object of class is declared, each object contains its own copy of static variables  
[anw] d 🡪 All objects of class share same static variable, when object of a class are declared, all the objects share same copy of static members, no copy of static variables are made.

**4.16** Which of the following statements are incorrect?  
a) Variables declared as final occupy memory  
b) final variable must be initialized at the time of declaration  
c) Arrays in java are implemented as an object  
d) All arrays contain an attribute-length which contains the number of elements stored in the array

[anw] a

**4.17** What will be the output of the following Java program?

1. **class** access
2. {
3. **static** **int** x;
4. **void** increment()
5. {
6. x++;
7. }
8. }
9. **class** static\_use
10. {
11. **public** **static** **void** main(String args[])
12. {
13. access obj1 = **new** access();
14. access obj2 = **new** access();
15. obj1.x = 0;
16. obj1.increment();
17. obj2.increment();
18. System.out.println(obj1.x + " " + obj2.x);
19. }
20. }

a) 1 2  
b) 1 1  
c) 2 2  
d) Compilation Error

[anw] c 🡪 All objects of class share same static variable, all the objects share same copy of static members, obj1.x and obj2.x refer to same element of class which has been incremented twice and its value is 2.

**4.18** What will be the output of the following Java program?

1. **class** static\_out
2. {
3. **static** **int** x;
4. **static** **int** y;
5. **void** add(**int** a , **int** b)
6. {
7. x = a + b;
8. y = x + b;
9. }
10. }
11. **class** static\_use
12. {
13. **public** **static** **void** main(String args[])
14. {
15. static\_out obj1 = **new** static\_out();
16. static\_out obj2 = **new** static\_out();
17. **int** a = 2;
18. obj1.add(a, a + 1);
19. obj2.add(5, a);
20. System.out.println(obj1.x + " " + obj2.y);
21. }
22. }

a) 7 7  
b) 6 6  
c) 7 9  
d) 9 7

[anw] c

**4.19** What will be the output of the following Java program?

1. **class** Output
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** arr[] = {1, 2, 3, 4, 5};
6. **for** ( **int** i = 0; i < arr.length - 2; ++i)
7. System.out.println(arr[i] + " ");
8. }
9. }

a) 1 2  
b) 1 2 3  
c) 1 2 3 4  
d) 1 2 3 4 5

[anw] b 🡪 arr.length() is 5, so the loop is executed for three times.

**4.20** What will be the output of the following Java program?

1. **class** Output
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** a1[] = **new** **int**[10];
6. **int** a2[] = {1, 2, 3, 4, 5};
7. System.out.println(a1.length + " " + a2.length);
8. }
9. }

a) 10 5  
b) 5 10  
c) 0 10  
d) 0 5

[anw] a 🡪 Arrays in java are implemented as objects, they contain an attribute that is length which contains the number of elements that can be stored in the array. Hence a1.length gives 10 and a2.length gives 5.

**[5] inheritance**

**5.1** Which of this keyword can be used in a subclass to call the constructor of superclass?  
a) super  
b) this  
c) extent  
d) extends

Answer: a

**5.2** What is the process of defining a method in a subclass having same name & type signature as a method in its superclass?  
a) Method overloading  
b) Method overriding  
c) Method hiding  
d) None of the mentioned

Answer: b

**5.3** Which of these keywords can be used to prevent Method overriding?  
a) static  
b) constant  
c) protected  
d) final

Answer: d  
Explanation: To disallow a method from being overridden, specify final as a modifier at the start of its declaration. Methods declared as final cannot be overridden.

**5.4** Which of these is correct way of calling a constructor having no parameters, of superclass A by subclass B?  
a) super(void);  
b) superclass.();  
c) super.A();  
d) super();

Answer: d

**5.5** At line number 2 in the following code, choose 3 valid data-type attributes/qualifiers among “final, static, native, public, private, abstract, protected”

1. **public** **interface** Status
2. {
3. */\* insert qualifier here \*/* **int** MY\_VALUE = 10;
4. }

a) final, native, private  
b) final, static, protected  
c) final, private, abstract  
d) final, static, public

Answer: d  
Explanation: Every interface variable is implicitly public static and final.

**5.6** Which of these is supported by method overriding in Java?  
a) Abstraction  
b) Encapsulation  
c) Polymorphism  
d) None of the mentioned

Answer: c

**5.7** Which of these keywords cannot be used for a class which has been declared final?  
a) abstract  
b) extends  
c) abstract and extends  
d) none of the mentioned

Answer: a  
Explanation: A abstract class is incomplete by itself and relies upon its subclasses to provide a complete implementation. If we declare a class final then no class can inherit that class, an abstract class needs its subclasses hence both final and abstract cannot be used for a same class.

**5.8** Which of these class relies upon its subclasses for complete implementation of its methods?  
a) Object class  
b) abstract class  
c) ArrayList class  
d) None of the mentioned

Answer: b

**5.9** What will be the output of the following Java program?

1. **abstract** **class** A
2. {
3. **int** i;
4. **abstract** **void** display();
5. }
6. **class** B **extends** A
7. {
8. **int** j;
9. **void** display()
10. {
11. System.out.println(j);
12. }
13. }
14. **class** Abstract\_demo
15. {
16. **public** **static** **void** main(String args[])
17. {
18. B obj = **new** B();
19. obj.j=2;
20. obj.display();
21. }
22. }

a) 0  
b) 2  
c) Runtime Error  
d) Compilation Error

Answer: b  
Explanation: class A is an abstract class, it contains a abstract function display(), the full implementation of display() method is given in its subclass B, Both the display functions are the same. Prototype of display() is defined in class A and its implementation is given in class B.

**5.10**  If a class inheriting an abstract class does not define all of its function then it will be known as?  
a) Abstract  
b) A simple class  
c) Static class  
d) None of the mentioned

Answer: a  
Explanation: Any subclass of an abstract class must either implement all of the abstract method in the superclass or be itself declared abstract.

**5.11** Which of these packages contains abstract keyword?  
a) java.lang  
b) java.util  
c) java.io  
d) java.system

Answer: a

**5.12** What will be the output of the following Java code?

1. **class** A
2. {
3. **public** **int** i;
4. **public** **int** j;
5. A()
6. {
7. i = 1;
8. j = 2;
9. }
10. }
11. **class** B **extends** A
12. {
13. **int** a;
14. B()
15. {
16. **super**();
17. }
18. }
19. **class** super\_use
20. {
21. **public** **static** **void** main(String args[])
22. {
23. B obj = **new** B();
24. System.out.println(obj.i + " " + obj.j)
25. }
26. }

a) 1 2  
b) 2 1  
c) Runtime Error  
d) Compilation Error

Answer: a  
Explanation: Keyword super is used to call constructor of class A by constructor of class B. Constructor of a initializes i & j to 1 & 2 respectively.

**5.13** What will be the output of the following Java code?

1. **class** A
2. {
3. **int** i;
4. **void** display()
5. {
6. System.out.println(i);
7. }
8. }
9. **class** B **extends** A
10. {
11. **int** j;
12. **void** display()
13. {
14. System.out.println(j);
15. }
16. }
17. **class** method\_overriding
18. {
19. **public** **static** **void** main(String args[])
20. {
21. B obj = **new** B();
22. obj.i=1;
23. obj.j=2;
24. obj.display();
25. }
26. }

a) 0  
b) 1  
c) 2  
d) Compilation Error

Answer: c  
Explanation: class A & class B both contain display() method, class B inherits class A, when display() method is called by object of class B, display() method of class B is executed rather than that of Class A.

**5.14** Which of these is correct way of inheriting class A by class B?  
a) class B + class A {}  
b) class B inherits class A {}  
c) class B extends A {}  
d) class B extends class A {}

Answer: c

**5.15** Which two classes use the Shape class correctly?

A. **public** **class** Circle **implements** Shape

{

**private** **int** radius;

}

B. **public** **abstract** **class** Circle **extends** Shape

{

**private** **int** radius;

}

C. **public** **class** Circle **extends** Shape

{

**private** **int** radius;

**public** **void** draw();

}

D. **public** **abstract** **class** Circle **implements** Shape

{

**private** **int** radius;

**public** **void** draw();

}

E. **public** **class** Circle **extends** Shape

{

**private** **int** radius;

**public** **void** draw()

{

*/\* code here \*/*

}

}

F. **public** **abstract** **class** Circle **implements** Shape

{

**private** **int** radius;

**public** **void** draw()

{

*/\* code here \*/*

}

}

a) B,E  
b) A,C  
c) C,E  
d) T,H

Answer: a  
Explanation: If one is extending any class, then they should use extends keyword not implements.

**5.16** What will be the output of the following Java program?

1. **class** A
2. {
3. **int** i;
4. **void** display()
5. {
6. System.out.println(i);
7. }
8. }
9. **class** B **extends** A
10. {
11. **int** j;
12. **void** display()
13. {
14. System.out.println(j);
15. }
16. }
17. **class** inheritance\_demo
18. {
19. **public** **static** **void** main(String args[])
20. {
21. B obj = **new** B();
22. obj.i=1;
23. obj.j=2;
24. obj.display();
25. }
26. }

a) 0  
b) 1  
c) 2  
d) Compilation Error

Answer: c  
Explanation: Class A & class B both contain display() method, class B inherits class A, when display() method is called by object of class B, display() method of class B is executed rather than that of Class A.

**5.17** What will be the output of the following Java program?

1. **class** A
2. {
3. **int** i;
4. }
5. **class** B **extends** A
6. {
7. **int** j;
8. **void** display()
9. {
10. **super**.i = j + 1;
11. System.out.println(j + " " + i);
12. }
13. }
14. **class** inheritance
15. {
16. **public** **static** **void** main(String args[])
17. {
18. B obj = **new** B();
19. obj.i=1;
20. obj.j=2;
21. obj.display();
22. }
23. }

a) 2 2  
b) 3 3  
c) 2 3  
d) 3 2

Answer: c  
Explanation: None

**5.18** Which of the following is used for implementing inheritance through an interface?  
a) inherited  
b) using  
c) extends  
d) implements

Answer: d  
Explanation: Interface is implemented using implements keyword. A concrete class must implement all the methods of an interface, else it must be declared abstract.

**5.19** Which of the following is used for implementing inheritance through class?  
a) inherited  
b) using  
c) extends  
d) implements

Answer: c  
Explanation: Class can be extended using extends keyword. One class can extend only one class. A final class cannot be extended.

**5.20** Does Java support multiple level inheritance?  
a) True  
b) False

Answer: a  
Explanation: Java supports multiple level inheritance through implementing multiple interfaces.

**// 참고사이트**

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