Q-001

```
public class Circle {
    double radius;
    public double area;
    public Circle(double r) {
        radius = r;
    }
    public double getRadius() {
        return radius;
    }
    public void setRadius(double r) {
        radius = r;
    }
    public double getArea() {
        return    /* ? ? ? */;
    }

    class App {
        public static void main(String[] args) {
            Circle cl = new Circle(17.4);
            c1.area = Math.PI * c1.getRadius() * c1.getRadius();
        }
    }
}
```

This class is poorly encapsulated. You need to change the circle class to compute and retum the area instead.

Which two modifications are necessary to ensure that the class is being properly encapsulated?

A) Remove the area field.

B) Change the getArea ( ) method as follows:
public double getArea ( ) { return Math.PI * radius * radius; }

C) Add the following method:
public void updateArea ( ) { area = Math.PI * radius * radius; }

D) Change the access modifier of the setRadius ( ) method to be protected.

Answer : A,B

Q-002

Given the code fragment:

```
public class Test {
	public static List data = new ArrayList();
	// insert code here
	{
		for (String x : strs) {
			data.add(x);
		}
		return data;
	}

	public static void main(String[] args) {
		String[] d = {"a", "b", "c"};
		update(d);
		for (String s : d) {
			System.out.print(s + "	");
		}
	}
}
```

Which code fragment, when insertd at // insert code here, enables the code to compile and print a b c ?

A) List update (String[ ] strs)

B) static ArrayList update (String[ ] strs)

C) static List update (String[ ] strs)

D) static void update (String[ ] strs)

E) ArrayList static update (String[ ] strs)

Answer : C

Q-003

Given

```
public class TestTry {
    public static void main(String[] args) {
        StringBuilder message = new StringBuilder("hello java!");
        int pos = 0;
        try {
            for (pos=0; pos<12; pos++) {
                switch (message.charAt(pos)) {
                    case  'a':
                    case  'e':
                    case  'o':
                        String uc = Character.toString(message.charAt(pos)).toUpperCase();
                        message.replace(pos, pos+1, uc);
                }
            }
        } catch (Exception e) {
            System.out.println("Out of limits");
        }
        System.out.println(message);
    }
}
```

What is the result?

A) hEllO jAvA!

B) hello java!

C) Out of limits
hEllO jAvA!

D) out of limits

Answer : C

Q-004

Given:

```
class Star {
	public void doStuff() {
		System.out.println("Twinkling Star");
	}
}
interface Universe {
	public void doStuff();
}
class Sun extends Star implements Universe {
	public void doStuff() {
		System.out.println("Shining Sun");
	}
}
public class Bob {
	public static void main(String[] args) {
		Sun obj2 = new Sun();
		Star obj3 = obj2;
		((Sun) obj3).doStuff();
		((Star) obj2).doStuff();
		((Universe) obj2).doStuff() ;
	}
}
```

What is the result?

A)

Shining Sun
Shining Sun
Shining Sun

B)

Shining Sun
Twinkling Star
Shining Sun

C) Compilation fails.

D) A ClassCastException is thrown at runtime.

Answer : A

Q-006

Which codo fragment causes a compilation error?

A) float flt = 100F;

B) float flt = (float) 1_11.00;

C) float flt = 100;

D) double y1 =203.22;

```
float flt =y1;
```

E) int y2 =100;

```
float flt =( float ) y2;
```

Answer :D

Q-007

Given:

```
class Alpha {
	public String[] main = new String[2];
	Alpha(String[] main) {
		for (int ii = 0; ii < main.length; ii++) {
			this.main[ii] = main[ii] + 5;
		}
	}
	public void main() {
		System.out.print(main[0] + main[1]);
	}
}

public class Test {
	public static void main(String[] args) {
		Alpha main = new Alpha(args);
		main.main();
	}
}
```

And the commands:

javac Test.java

java Test 1 2

what is the result?

A) 1525

B) 13

C) An compiltation fails.

D) An exception is thrown at runtime.

E) The program fails to execute a runtime error.

Answer：A

Q-009

Given:

```
abstract class X {
      public abstract void mothodX();
}
interface Y {
      public void mothodY();
}
```

Which two code fragments are valid?

A)
```
class Z extends X implements Y {
      public void methodZ() {    }
    }
```

B)
```
abstract class Z extends X implements Y {
      public void methodZ() {    }
    }
```

C)
```
class Z extends X implements Y {
      public void methodX() {    }
    }
```

D)
```
abstract class Z extends X implements Y {
    }
```

E)
```
class Z extends X implements Y {
      public void methodY() {    }
    }
```

Answer ：B,D

Q-010

Given:

class A { }

class B { }

interface X { }

interface Y { }

Which two definitions of class C are valid?

A) class C extends A implements X { }

B) class C implements Y extends B { }

C) class C extends A , B { }

D) class C implements X , Y extends B { }

E) class C extends B implements X , Y { }

Answer：A,E

Q-011

Given:

```
package handy.dandy;
public class Keystroke {
    public void type[xc]amation(){
        System.out.println("1");
    }
}
```

And

```
1.  package handy;
2.  public class Greet {
3.      public static void main(String[] arge) {
4.          String greeting = "Hello";
5.          System.out.print(greeting);
6.          Keystroke stroke = new Keystroke();
7.          stroke.typeExclamation();
8.      }
9.  }
```

What three modifications,made independently,enable the code to compile and run?

A) line 6 replaced with handy.dandy.Keystroke stroke = new Keystroke();

B) line 6 replaced with handy.*.Keystroke stroke = new Keystroke();

C) line 6 replaced with handy.dandy.Keystroke stroke = new handy.dandy.Keystroke();

D) import handy.*; added before line 1

E) import handy.dandy.*; added after line 1

F) import handy.dandy.Keystroke;added after line 1

G) import handy.dandy.Keystroke.typeExclamation(); added before line 1

Answer：C,E,F

Q-013

Given the code fragment;

```
String color = "teal";
switch (color) {
        case "Red":
                System.out.println("Found Red");
        case "Blue":
                System.out.println("Found Blue");
                break;
        case "Teal":
                System.out.println("Found Teal");
                break;
        default:
                System.out.grintln("Found Default");
}
```

What is the resuit?

A) Found Red
   Found Default

B) Found Tea

C) Found Teal
   Found Default

D) Found Red
   Found Blue
   Found Teal
   Found Default

E) Found Default

Answer：E

Q-014

Given

:

```
public class App {
	public static void main(String[] args) {
		int i = 10;
		int j = 20;
		int k = j += i / 5;
		System.out.print(i + ":" + j + ":" + k);
	}
}
```

What is the result?

A) 10 : 22 : 20

B) 10 : 22 : 22

C) 10 : 22 : 6

D) 10 : 30 : 6

Answer：B

Q-015

Given the cod fragment:

```
if (aVar++ < 10) {
        System.out.println(aVar + "Hello world!");
} else {
        System.out.println(aVar + "Hello Universe!");
}
```

What is the result if the integer aVar is 9?

A) 10 Hello world!

B) 10 Hello Universe!

C) 9 Hello worldl

D) Compilation fails.

Answer：A

Q-16

Given the fragment:

```
13. String [][] arra = new String [3][] ;
14. arra[0] = new String[] {"rera","lity"};
15. arra[1] = new String[] {"apple", "berry", "cnerry", "grapes"};
16. arra[2] = new String[] {"beans", "carrot", "potato"};
17.
18. // insert code fragment here
```

Which code fragment,when inserted at line 18,enables the code to successfully change arra elements to uppercase?

A)
```
for (int i = 0; i < arra.length; i++) {
    for (int j = 0; j < arra[i].length; j++) {
        arra [i] [j] = arra [i] [j].toUpperCase();
    }
}
```

B)
```
for (int i = 0; i < 3; i++) {
    for (int j = 0; j < 4; j++) {
        arra [i] [j] = arra [i] [j].toUpperCase();
    }
}
```

C)
```
for (String a [] :arra [] [] ) {
    for (String x:a[]) {
        x.toUpperCase();
    }
}
```

D)
```
for (int i:arra.length) {
    for (String x:arra) {
        arra[i] = x.toUpperCase();
    }
}
```

Answer：A

Q-018

Given:

```
public class Test {
	public static void main(String[] args) {
		Test ts = new Test();
		System.out.print(isAvailable + " ");
		isAvailable = ts.doStuff();
		System.out.println(isAvailable);
	}

	public static boolean doStuff() {
		return !isAvailable;
	}
	static boolean isAvailable = false;
}
```

What is the result?

A) true true

B) true false

C) false true

D) false false

E) Compilation faile.

Answer：C

Q-019

Given the code fragment:

```
int [] lst = {1, 2, 3, 4, 5, 4, 3, 2, 1};
int sum = 0;
for (int frnt = 0, rear = lst.length - 1;
        frnt<5 && rear >=5;
        frnt++, rear--) {
              sum = sum + lst[frnt] + lst[rear];
}
System.out.print(sum);
```

What is the result?

A) 20

B) 25

C) 29

D) Compilation fails.

E) An ArrayIndexOutofBoundException is thrown at runtime.

Answer：A

Q-020

Given

:

```
class Test {
	int sum = 0;
	public void doCheck(int number) {
		if (number % 2 == 0) {
			break;
		} else {
			for (int i = 0; i < number; i++) {
				sum += i;
			}
		}
	}

	public static void main(String[] args) {
		Test obj = new Test();
		System.out.println("Red " + obj.sum);
		obj.doCheck(2);
		System.out.println("Orange " + obj.sum);
		obj.doCheck(3);
		System.out.println("Green " + obj.sum);
	}
}
```

What is the result?

A) Red 0
Orange 0
Green 3

B) Red 0
Orange 0
Green 6

C) Red 0
Orange 1
Green 4

D) Compilation fails.

Answer：D

Q-22

Given:

```
public class MyForl {
   public static void main(String[] args) {
         int[] x = { 6, 7, 8 };
         for (int i : x) {
               System.out.print(i + " ");
               i++;
         }
   }
}
```

What is the result?

A) 6 7 8

B) 7 8 9

C) 0 1 2

D) 6 8 10

E) Compilation fails.

Answer：A

Q-023

Given:

```
class Jump {
	static String args[] = {"lazy", "lion", "is", "always"};
	public static void main(String[] args) {
		System.out.println(
		args[1] + " " + args[2] + " " + args[3] + " jumping");
	}
}
```

And the commands:

javac Jump.java

java Jump crazy elephant is always

What is the result?

A) lazy lion is jumping

B) lion is always jumping

C) crazy elephant is jumping

D) elephant is always jumping

E) Compilation fails.

Answer：D

Q-024

Given:

```
public class Test2 {
	public static void doChange(int[] arr) {
		for (int pos = 0; pos < arr.length; pos++) {
			arr[pos] = arr[pos] + 1;
		}
	}

	public static void main(string[] args) {
		int[] arr = {10, 20, 30};
		doChange(arr);
		for (int x : arr) {
			System.out.print(x + ", ");
		}
		doChange(arr[0], arr[1], arr[2]);
		System.out.print(arr[0] + ", " + arr[1] + ", " + arr[2]);
	}
}
```

What is the result?

A) 11, 21, 31, 11, 21, 31

B) 11, 21, 31, 12, 22, 32

C) 12, 22, 32, 12, 22, 32

D) 10, 20, 30, 10, 20, 30

E) Compilation fails.

Answer：E

Q-025

Given:

```
class Caller {
	public static void call() {
		System.out.println("Called");
	}
}
public class TestCall {
	public static void main(String [] args) {
		// insert code here
	}
}
```

Which two snippets,inserted independently at // insert code here, enable the code to compile and run?

A) new Caller() .call();

B) call();

C) Caller.call();

D) Caller c;
   c.call();

E) Caller ().call ();

Answer：A,C

Q-026

Given:

```
class X {
	int x1, x2, x3;
}
class Y extends X {
	int y1;
	Y() {
		x1 = 1;
		x2 = 2;
		y1 = 10;
	}
}
class Z extends Y {
	int z1;
	Z() {
		x1 = 3;
		y1 = 20;
		z1 = 100;
	}
}
```

And,

```
public class Test3 {
	public static void main(String[] args) {
		Z obj = new Z();
		System.out.println(obj.x3 + ",    " + obj.y1 + ", " + obj.z1);
	}
}
```

Which constructor initlalizes the variable x3?

A) only the default constructor of class X

B) only the no-argument constructor of class Y

C) only the no-argument constructor of class Z

D) only the default constructor of object class

Answer：A

Q-028

Given:

```
class Patient{
        String name;
        public Patient (String name ) {
                this.name = name;
        }
}
```

And the code fragment:

```
8.    public class Test {
9.    public static void main(String[] args) {
10.         List ps = new ArrayList();
11.         Patient p2 = new Patient("Mike");
12.         ps.add(p2);
13.
14.         // insert code here
15.
16.         if (f >=0 ) {
17.                 System.out.print ("Mike Found");
18.         }
19.}
20.}
```

Which code fragment,when inserted at line 14,enables the code to print Mike Found?

A) int f = ps.indexOf(new Patient ("Mike"));

B) int f = ps.indexOf(Patient ("Mike"));

C) Patient p = new Patient ("Mike");
   int f = ps.indexOf(p)

D) int f = ps.indexOf(p2);

Answer：D

Q-031

Which statement will empty the contents of a StringBuilder variable named sb?

A) sb.deleteAll ();

B) sb.delete(0, sb.size());

C) sb.delete(0, sb.length());

D) sb.removeAll();

Answer：C

Q-032

Given:

```
public class Access {
    private int x = 0;
    private int y = 0;
    public static void main(String[] arge) {
        Access accApp = new Access();
        accApp.printThis(1, 2);
        accApp.printThat(3, 4);
    }
    public void printThis(int x, int y) {
        x = x;
        y = y;
        System.out.println("x:" + this.x + "y:" + this.y);
    }
    public void printThat(int x, int y) {
        this.x = x;
        this.y = y;
        System.out.println("x:" + this.x + "y:" + this.y);
    }
}
```

What is the result?

A) x:1 y:2
   x:3 y:4

B) x:0 y:0
   x:3 y:4

C) x:1 y:2
   x:0 y:0

D) x:0 y:0
   x:0 y:0

Answer：B

Q-034

Given the code fragment:

```
9.  int a = -10;
10. int b = 17;
11. int c = expression1;
12. int d = expression2;
13. c++;
14. d--;
15. System.out.print(c  +  " , "  +  d);
```

What could expression1 and expression2 be,respectively,in order to produce output -8 , 16

A) ++a , --b

B) ++a , b--

C) a++ , --b

D) a++ , b--

Answer：B

Q-035

Given:

```
public class Case {
	public static void main(String[] args) {
		String product = "Pen";
		product.toLowerCase();
		product.concat(" BOX".toLowerCase());
		System.out.print(product.substring(4,6));
	}
}
```

What is the result?

A) box

B) nbo

C) bo

D) nb

E) An exception is thrown at runtime.

Answer ：E

Q-036

Which two actions will improve the encapsulation of a class?

A) Changing the access modifier of a field from public to private

B) Removing the public modifier from a class declaration

C) Changing the return type of a method to void

D) Returning a copy of the contents of an array or ArrayList instead of a direct reference

Answer：A,D

Q-037

Given:

```
public class Series {
	private boolean flag;
	public void displaySeries() {
		int num = 2;
		while (flag) {
			if (num % 7 == 0) {
				flag = false;
			}
			System.out.print(num);
			num += 2;
		}
	}
	public static void main(String[] args) {
		new Series().displaySeries();
	}
}
```

What is the result?

A) 2 4 6 8 10 12

B) 2 4 6 8 10 12 14

C) Compilation fails.

D) The program prints multiples of 2 infinite times.

E) The program prints nothing.

Answer：E

Q-038

Given the code fragment:

String [] colors = {"red", "blue", "green", "yellow", "maroon", "cyan"};

Which code fragment prints blue, cyan,?

A)
```
for (String c:colors) {
    if (c.length() != 4) {
        continue;
    }
System.out.print(c+", ");
}
```

B)
```
for (String c:colors[]) {
    if (c.length () <= 4) {
        continue;
    }
System.out.print(c+", ");
}
```

C)
```
for (String c:String[] colors) {
    if (c.length() >=3) {
        continue;
    }
    System.out.print(c+", ");
}
```

D)
```
for (String c:colors) {
    if (c.length() != 4) {
        System.out.print(c+", ");
        continue;
    }
}
```

Answer：A

Q-039

Given the code fragment:

```
class DBConfiguration {
    String user;
    String password;
}
```

And:

```
4. public class DBHandler {
5.      DBConfiguration configureDB(String uname, String password) {
6.          // insert code here
7.      }
8.      public static void main(String[] args) {
9.          DBHandler r = new DBHandler();
10.         DBConfiguration dbConf = r.configureDB("manager","manager");
11.     }
12. }
```

Which code fragment must be inserted at line 6 to enable the code to compile?

A) DBConfiguration f;
   return f;

B) return DBConfiguration;

C) return new DBConfiguration();

D) return 0;

Answer：C

Q-040

Given:

```
public class Msg {
	public static String doMsg(char x) {
		return "Good Day!";
	}
	public static String doMsg(int y) {
		return "Good Luck!";
	}
	public static void main(String[] args) {
		char x =8;
		int z = '8';
		System.out.println(doMsg(x));
		System.out.print(doMsg(z));
	}
}
```

What is the result?

A) Good Day!
Good Luck!

B) Good Day!
Good Day!

C) Good Luck!
Good Day!

D) Good Luck!
Good Luck!

E) Compilation fails.

Answer：A

Q-041

Given:

```
public class Test {
	public static void doChange(String sb) {
		sb.concat(" Moliday");
	}
	public static void main(String[] args) {
		StringBuilder sb = new StringBuilder("Sunday");
		doChange(sb);
		System.out.println(sb);
	}
}
```

What is the result?

A) Sunday Moliday

B) Sunday

C) Compilation fails.

D) An exception is thrown at runtime.

Answer：C

Q-042

Given:

```
class Test {
      public static void main(String[] args) {
         int numbers[];
         numbers = new int[2];
         numbers[0] = 10;
         numbers[1] = 20;

         numbers = new int [4];
         numbers[2] = 30;
         numbers[3] = 40;
         for (int x : numbers) {
            System.out.print(" "+x);
         }
      }
}
```

What is the result?

A) 10 20 30 40

B) 0 0 30 40

C) Compilation fails.

D) An exception is thrown at runtime.

Answer：B

Q-043

Given:

```
public class MyFor3 {
    public static void main(String[] args) {
        int[] xx = null;
        for (int ii : xx) {
            System.out.println(ii);
        }
    }
}
```

What is the result?

A) null

B) Compilation fails.

C) An exception is thrown at runtime.

D) 0

Answer：C

Q-044

Given:

```
public class X implements Z {
	public String toString() {
		return "X ";
	}
	public static void main(String[] arg) {
		Y myY = new Y();
		X myX = myY;
		Z myZ = myX;
		System.out.print(myX);
		System.out.print((Y)myX);
		System.out.print(myZ);
	}
}
class Y extends X {
	public String toString() {
		return "Y ";
	}
}
interface Z { }
```

What is the result?

A) X X X

B) X Y X

C) Y Y X

D) Y Y Y

Answer：D

Q-045

The protected modifier on a field declaration within a public class means that the field _____ .

A) cannot be modified

B) can be read but not written from outside the class

C) can be read and written from this class and its subclasses only within the same package

D) can be read and written from this class and its subclasses defined in any package

Answer：D

Q-046

Given the code fragment:

```
class Test2 {
   int fvar;
   static int cvar;
   public static void main(String[] args) {
      Test2 t = new Test2();
      // insert code here to write field varlables
   }
}
```

Which two code fragments,inserted independently,enable the code to compile?

A)
```
t.fvar = 200;
t.cvar = 400;
```

B)
```
fvar = 200;
cvar = 400;
```

C)
```
this.fvar = 200;
this.cvar = 400;
```

D)
```
t.fvar = 200;
Test2.cvar = 400;
```

E)
```
this.fvar = 200;
Test2.cvar = 400;
```

Answer：A,D

Q-047

Given:

```
public class Calculator {
	public static void main(String[] args) {
		int num = 5;
		int sum;

		do {
			sum += num;
		} while ((num--) > 1);
		System.out.println("The sum is " + sum + ", ");
	}
}
```

What is the result?

A) The sum is 2.

B) The sum is 14.

C) The sum is 15.

D) The loop executes infinite times.

E) Compilation fails.

Answer：E

Q-048

Which two items can legally be contained within a Java class declaration?

A) An import statement

B) A field declaration

C) A package de declaration

D) A method declaration

Answer：B,D

Q-049

Given:

```
class Mid {
        public int findMid(int n1, int n2) {
                return (n1 + n2) / 2;
        }
}
public class Calc extends Mid {
        public static void main(String[] args) {
                int n1 = 22, n2 = 2;
                // insert code here
                System.out.print(n3);
        }
}
```

Which two code fragments,when inserted at // insert code here,

enable the code to compile and print 12 ?

A)
```
Calc c = new Calc();
int n3 = c.findMid(n1, n2);
```

B)
```
int n3 = super.findMid(n1, n3);
```

C)
```
Calc c = new Mid ();
int n3 = c.findMid(n1, n2);
```

D)
```
Mid m1 = new Calc();
int n3 = m1.findMid(n1, n2);
```

E)
```
int n3 = Calc. findMid(n1, n2);
```

Answer：A,D

Q-050

Which three are advantages of the Java exception mechanism?

A) improves the program structure because the error handling code is separated from the normal program function

B) provides a set of standard exceptions that covers all the possible errors

C) improves the program structure because the programmer can choose where to handle exceptions

D) improves the program structure because exceptions must be handled in the method in which they occurred

E) allows the creation of new exceptions that are tailored to the particular program being created

Answer：A,C,E

Q-051

Given:

```
public class Test {
    static void dispResult(int[] num) {
        try {
            System.out.println(num[1] / (num[1] - num[2]));
        } catch (ArithmeticException e) {
            System.err.println("first exception");
        }
        System.out.println("Done");
    }

    public static void main(String[] args) {
        try {
            int[] arr = {100, 100};
            dispResult(arr);
        } catch (IllegalArgumentException e) {
            System.err.println("second exception");
        } catch (Exception e) {
            System.err.println("third exception");
        }
    }
}
```

What is the result?

A) 0
   Done

B) first exception
   Done

C) second exception

D) Done
   third exception

E) third exception

Answer：E

Q-053

Given:

```
public class X {
	public static void main(String[] args) {
		String theString = "Hello World";
		System.out.println(theString.charAt(11));
	}
}
```

What is the result?

A) The program prints nothing.

B) d

C) A StringIndexOutOfBoundsException is thrown at runtime.

D) An ArrayIndexOutOfBoundsException is thrown at runtime.

E) A NullPointerException is thrown at runtime.

Answer：C

Q-054

Given:

```
class X {
	public void nX() {
		System.out.println("Xn1");
	}
}
class Y extends X {
	public void nX() {
		System.out.println("Xn2");
	}
	public void nY() {
		System.out.println("Yn");
	}
}

public class Test {
	public static void main(String[] args) {
		X xRef = new Y();
		Y yRef = (Y)xRef;
		yRef.nY();
		xRef.nX();
	}
}
```

What is the result?

A) Yn
Xn2

B) Yn
Xn1

C) Compilation fails.

D) A ClassCastException is thrown at runtime.

Answer：A

Q-056

Given:

```
class SpecialException extends Exception {
	public SpecialException(String message) {
		super(message);
		System.out.println(message);
	}
}
public class ExceptionTest {
	public static void main(String[] args) {
		trt {
			doSomething();
		}
		catch (SpecialException e) {
			System.out.println(e);
		}
	}
	static void doSomething() throws SpecialException {
		int[] ages = new int[4];
		ages[4] = 17;
		doSomethingElse();
	}
	static void doSomethingElse() throws SpecialException {
		throw new SpecialException("Thrown at end of doSomething() method");
	}
}
```

What will be the output?

A) SpecialException: Thrown at end of doSomethin() method

B) Error in thread "main" jave.lang.ArrayIndexOutOfBoundsError

C) Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: 4
at ExceptionTest.doSomething(ExceptionTest.java:13)
at ExceptionTest.main(ExceptionTest.java:4)

D) SpecialException: Thrown at end of doSomething() method
at ExceptionTest.doSomethingElse(ExceptionTest.java:16)
at ExceptionTest.doSomething(ExceptionTest.java:13)
at ExceptionTest.main(ExcepationTest.java:4)

Answer：C

Q-058

Given:

```
1. import java.ib.Error;
2. public class TestApp {
3.     public static void main(String[] args) {
4.         TestApp t = new TestApp();
5.         try {
6.             t.doPrint();
7.             t.doList();
8.
9.         } catch (Exception eZ) {
10.          System.out.println("Caught " + eZ);
11.        }
12.    }
13.  public void doList() throws Exception {
14.        throw new Error("Error");
15.  }
16.  public void doPrint() throws Exception {
17.        throw new RuntimeException("Exception");
18.  }
19. }
```

What is the result?

A) Caught java.lang.RuntimeException: Exception

Exception in thread "main" java.lang.Error: Error

at TestApp.doList(TestApp.java: 14)

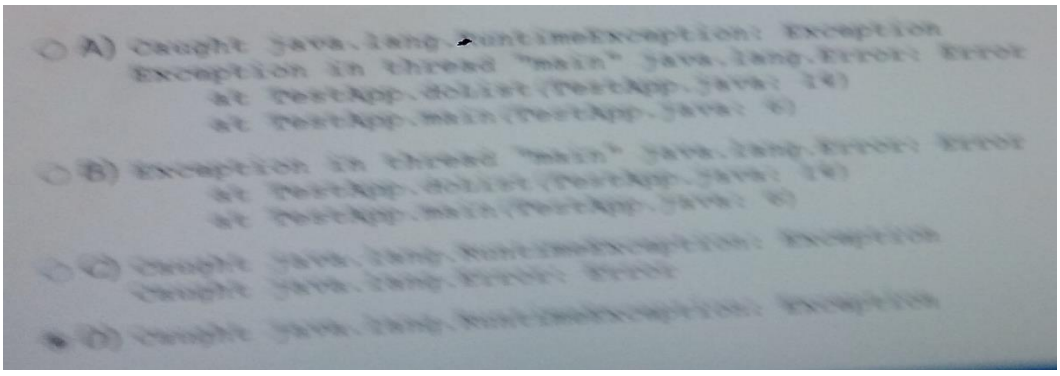
at TestApp.mainJ(TestApp.java: 6)

B) Exception in thread "main" java.lang.Error: Error

at TestApp.doList(TestApp.java: 14)

at TestApp.main(TestApp.jave: 6)

D) Caught java.lang.RunTimeException:Exception



Answer：D

Q-060

Given the class definitions :

```
class Alpha {
        public String doStuff(String msg) {
            return msg;
        }
}
class Beta extends Alpha {
    public String doStuff(String msg) {
        return msg.replace('a', 'e');
    }
}
class Gamma extends Beta {
    public String doStuff(String msg) {
        return msg.substring(2);
    }
}
```

And the code fragment of the main() method,

```
12. List<Alpha> strs = new ArrayList<Alpha>();
13. strs.add(new Alpha());
14. strs.add(new Beta());
15. strs.add(new Gamma());
16. for (Alpha t : strs) {
17.     System.out.println(t.doStuff("Java"));
18. }
```

What is the result?

A) Java
   Java
   Java

B) Java
   Jeve
   va

C) Java
   Java
   ve

F) Compilation fails.

Answer：B

Q-062

Which two are valid dedarations of a two-dimensional array?

A) int [] [] array20;

B) int [2] [2] array20;

C) int array20 [];

D) int [] array20 [];

E) int [] [] array20 [];

Answer：A,D

Q-063

Given the code fragment:

```
class Student {
    String name;
    int age;
}
```

And,

```
1.  public class Test {
2.      public static void main(String [] args) {
3.          Student s1 = new Student ();
4.          Student s2 = new Student ();
5.          Student s3 = new Student ();
6.          s1 = s3;
7.          s3 = s2;
8.          s2 = null;
9.      }
10. }
```

Which statement is true?

A) After line 8, three objects are eligible for garbage collection.

B) After line 8, two objects are eligible for garbage collection.

C) After line 8, one objects is eligible for garbage collection.

D) After line 8, none of the objects are eligible for garbage collection.

Answer：C

Q-064

Given:

```
public class Series {
    public static void main(String [] args) {
        int arr [] = {1, 2, 3};
        for (int var : arr) {
            int i = 1;
            while (i <= var);
                System.out.println(i++);
        }
    }
}
```

What is the result?

A) 1
   1
   1

B) 1
   2
   3

C) 2
   3
   4

D) Compilation fails.

E) The loop executes infinite times.

Answer：E

Q-065

Given the code fragment:

```
7.  StringBuilder sb1 = new StringBuilder("Duke");
8.  String str1 = sb1.toString();
9.  // insert code here
10. System.out.print(str1 == str2);
```

Which code fragment, when inserted at line 9, enables the code to print true?

A) String str2 = str1;

B) String str2 = new String(str1);

C) String str2 = sb1.toString();

D) String str2 = "Duke";

Answer：A

Q-066

Given the code fragments:

```
interface Contract {}
class Super implements Contract {}
class Sub extends Super {}
public class Ref {
    public static void main(String[] args) {
        List objs = new ArrayList();
        Contract c1 = new Super();
        Contract c2 = new Sub();        // line n1
        Super s1 = new Sub();
        objs.add(c1);
        objs.add(c2);
        objs.add(s1);                   // line n2
        for (Object itm : objs) {
            System.out.println(itm.getClass().getName());
        }
    }
}
```

What is the result?

A) Super
   Sub
   Sub

B) Contract
   Contract
   Super

C) Compilation fails at line n1.

D) Compilation fails at line n2.

Answer：A

Q-068

Given the code fragments:

```
public class TestA extends Root {
    public static void main (String[] args) {
        Root r = new TestA();
        System.out.println(r.method1());      // line n1
        System.out.println(r.method2());      // line n2
    }
}
class Root {
    private static final int MAX = 20000;
    private int method1 () {
        int a = 100 + MAX;      // line n3
        return a;
    }
    protected int method2 () {
        int a = 200 + MAX;      // line n4
        return a;
    }
}
```

Which line causes a compilation error?

A) line n1

B) line n2

C) line n3

D) line n4

Answer：A

Q-069

Given the code fragment:

```
public static void main(String [] args) {
        ArrayList<String> list = new ArrayList<>();
        list.add("SE");
        list.add("EE");
        list.add("ME");
        list.add("SE");
        list.add("EE");
        list.remove("SE");
        System.out.println("Values are : "    + list );
}
```

What is the result?

A) Values are : [EE, ME]

B) Values are : [SE, EE, ME]

C) Values are : [EE, ME, SE]

D) Values are : [SE, EE, ME,EE]

E) Values are : [EE, ME, SE, EE]

Answer：E

Q-070

Given the code fragment:

System.out.println (28 + 5 <= 4 + 29);

System.out.println ((28 + 5) <= (4 + 29));

What is the result?

A) 28false29
   true

B) 285 < 429
   true

C) true
   true

D) Compilation fails.

Answer ：C

Q-072
Given:

```
public class Palindrome {
	public static int main(String [] args) {
		System.out.print(args [1]);
		return 0;
	}
}
```

And the commands:
javac Falindrome.java
java Falindrome Wow Mom

What is the result?
A) Compilation fails.
B) The code compiles, but does not execute.
C) Falindrome
D) Wow
E) Mom

Answer：B

Q-073

Given:

```
1.  public class TestLoop {
2.      public static void main(String [] args) {
3.          float myarray [] = { 10.20f, 20.30f, 30.40f, 50.60f };
4.          int index = 0;
5.          boolean isFound = false;
6.          float key = 30.40f;
7.          // insert code here
8.          System.out.println(isFound);
9.      }
10. }
```

Which code fragment, when inserted at line 7, enables the code to print true?

A)
```
while (key == myarray[index++]) {
    isFound = true;
}
```

B)
```
while (index <= 4) {
    if (key == myarray[index]) {
        index++;
        isFound = true;
        break;
    }
}
```

C)
```
while (index++ < 5) {
    if (key == myarray[index]) {
        isFound = true;
    }
}
```

D)
```
while (index < 5) {
    if (key == myarray[index]) {
        isFound = true;
        break;
    }
    index++;
}
```

Answer：D

Q-075

Given:

```
public class Test3 {
    public static void main(String[] args) {
        String names[] = new String[3];
        names[0] = "Mary Brown";
        names[1] = "Nancy Red";
        names[2] = "Jessy Orange";
        try {
            for (String n : names) {
                try {
                    String pwd = n.substring(0, 3) + n.substring(6, 10);
                    System.out.println(pwd);
                } catch (StringIndexOutOfBoundsException sie) {
                    System.out.println("string out of limits");
                }
            }
        } catch (ArrayIndexOutOfBoundsException e) {
            System.out.println("array out of limtis");
        }
    }
}
```

What is the result?

A) Marrown
string out of limits
JesOran

B) Marrown
string out of limits
array out of limits

C) Marrown
string out of limits

D) Marrown
NanRed
JesOran

Answer：A

Q-077

Given:

```
class Caller {
	private void init() {
		System.out.println("Initialized");
	}
	public void start() {
		init();
		System.out.println("Started");
	}
}
public class TestCall {

	public static void main(String[] args) {
		Caller c = new Caller();
		c.start();
		c.init();
	}
}
```

What is the result?

A) Initialized
Started

B) Initialized
Started
Initialized

C) Compilation fails.

D) An exception is thrown at runtime.

Answer：C

Q-078

Given this code in a file Traveler.java:

```
class Tours {
	public static void main(String[] args) {
		System.out.print("Happy Journey! " + args[1]);
	}
}
public class Traveler {
	public static void main(String[] args) {
		Tours.main(args);
	}
}
```

And the commands:

javac Traveler.java

java Traveler Java Duke

What is the result?

A) Happy Journey! Duke

B) Happy Journey! Java

C) An exception is thrown at runtime.

D) The program fails to execute due to a runtime error.

Answer：A

Q-079

Given the code fragment:

24. float var1 = (12_345.01 >= 123_45.00) ? 12_456 : 124_56.02f;
25. float var2 = var1 + 1024;
26. System.out.print(var2);

What is the result?

A) 13480.0

B) 13480.02

C) Compilation fails.

D) An exception is thrown at runtime.

Answer：A

Q-080

Given:

```
class Dog {
	Dog() {
		try {
			throw new Exception();
		}catch (Exception e) { }
	}
}
class Test {
	public static void main(String[] args ) {
		Dog d1 = new Dog();
		Dog d2 = new Dog();
		Dog d3 = d2;
		// do complex stuff
	}
}
```

How many objects have been created when the line // do complex stuff is reached?

A) two

B) three

C) four

D) six

Answer：A

Q-081

Given:

```
public class Test2 {
	public static void main(String[] args) {
		int ar1[] = {2, 4, 6, 8};
		int ar2[] = {1, 3, 5, 7, 9};
		ar2 = ar1;
		for (int e2 : ar2) {
			System.out.print(" " + e2);
		}
	}
}
```

What is the result?

A) 2 4 6 8

B) 2 4 6 8 9

C) 1 3 5 7

D) 1 3 5 7 9

E) Compilation fails.

F) An exception is thrown at runtime.

Answer：A

Q-082

Given:

```
public class Vowel {
    private char var;
    public static void main(String[] args) {
        char var1 = 'a';
        char var2 = var1;
        var2 = 'e';
        Vowel obj1 = new Vowel();
        Vowel obj2 = obj1;
        obj1.var = 'i';
        obj2.var = 'o';
        System.out.println(var1 + ", " + var2);
        System.out.print(obj1.var + ", " + obj2.var);
    }
}
```

What is the result?

A) a, e
   i, o

B) a, e
   o, o

C) e, e
   i, o

D) e, e
   o, o

Answer：B

Q-083

Question

```
class MissingInfoException extends Exception { }
class AgeOutofRangeException extends Exception { }
class Candidate {
	String name;
	int age;
	Candidate(String name, int age) throws Exception {
		if (name == null) {
			throw new MissingInfoException();
		} else if (age <= 10 || age >= 150) {
			throw new AgeOutofRangeException();
		} else {
			this.name = name;
			this.age = age;
		}
	}
	public String toString() {
		return name + " age: " + age;
	}
}
```

Exhibit

View the Exhibit.

Given the code fragment:

```
4.	public class Test {
5.		public static void main(String[] args) {
6.			Candidate c = new Candidate("James", 20);
7.			Candidate c1 = new Candidate("Williams", 32);
8.			System.out.println(c);
9.			System.out.println(c1);
10.		}
11.	}
```

Which change enables the code to print the following?

James age: 20

willilams age: 32

A) replacing line 5 with public static void main(String[] args) throws MissingInfoException, AgeOutofRangeException {

B) replacing line 5 with public static void main(String[] args) throws Exception {

C) enclosing line 6 and line 7 within a try block and adding:
catch(Exception e1) { // code goes here }
catch(MissingInfoException e2) { // code goes here }
catch(AgeOutofRangeException e3) { // code goes here }

D) enclosing line6 and line 7 within a try block and adding:
catch(MissingInfoException e1) { // code goes here }
catch(AgeOutofRangeException e2) { // code goes here }

Answer：B

Q-087

Given:

```
public abstract class Shape {
    private int x;
    private int y;
    public abstract void draw();
    public void setAnchor (int x, int y) {
        this.x = x;
        this.y = y;
    }
}
```

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 */ }
}
```

Answer：B,E

Q-089

Given:

```
class X {
	String str = "default";
	X(String s) {
		str = s;
	}
	void print() {
		System.out.println(str);
	}
	public static void main(String[] args) {
		new X("hello").print();
	}
}
```

What is the result?

A) hello

B) default

C) Cornpilation fails.

D) The program prints nothing.

E) An exception is thrown at runtime.

Answer：A

Q-090

Given:

```
public class TestA {
    static int speed = 10;
    int weight;
    public static void doAnything(int x) {
        weight = ++x;
        speed++;
    }
    public static void main(String[] args) {
        TestA obj = new TestA();
        obj.doAnything(speed);
        System.out.println(speed + " " + obj.weight);
        obj.doAnything(speed);
        System.out.println(speed + " " + obj.weight);
    }
}
```

What is the result?

A) 11 11
   12 12

B) 10 11
   10 12

C) 10 10
   10 10

D) Compilation fails.

E) An exception is thrown at runtime.

Answer：D

Q-091

Given:

```
class Alpha {
	int ns;
	static int s;
	Alpha(int ns) {
		if (s < ns) {
			s = ns;
			this.ns = ns;
		}
	}
	void doPrint() {
		System.out.println("ns = " + ns + " s = " + s);
	}
}
```

And,

```
public class TestA {
	public static void main(String[] args) {
		Alpha ref1 = new Alpha(50);
		Alpha ref2 = new Alpha(125);
		Alpha ref3 = new Alpha(100);
		ref1.doPrint();
		ref2.doPrint();
		ref3.doPrint();
	}
}
```

What is the result?

A) ns = 50 s = 125
ns = 125 s = 125
ns = 100 s = 125

B) ns = 50 s = 125
ns = 125 s = 125
ns = 0 s= 125

C) ns = 50 s= 50
ns =125 s = 125
ns = 100 s = 100

D) ns = 50 s = 50
ns = 125 s = 125
ns = 0 s = 125

Answer：B

Q-093

Which two statements are true for a two-dimensional array of primitive data type?

A) It cannot contain elements of different types.

B) The length of each dimension must be the same.

C) At declaration time, the number of elements of the array in each dimension must be specified.

D) All methods of the class object may be invoked on the two-dimensional array.

Answer：A,D