**Core Java Manipal Assessment**

**1.** **What will be the output of the program?**

class InvalidDataException extends Exception { }

class MyException extends InvalidDataException { } /\* Line 2 \*/ public class Test{

public static void main(String args[]){

try{

throw new MyException(); /\* Line a \*/

}

catch(InvalidDataException e0) {/\* Line b \*/ System.out.println("InvalidData caught");

}

catch (MyException e) {/\* Line c \*/

System.out.println("exception caught");

}

}

}

*( Choose one )*

* InvalidData caught
* exception caught
* Compilation fails at Line b
* Compilation fails at Line c

**2.** **What is the output of the below code,**

interface A { }

abstract class C { }

class D extends C implements A { }

class B extends D{ }

public class Test{

public static void main(String[] args){

B b = new B();

if (b instanceof A)

System.out.println("b is an instance of A");

if (b instanceof D)

System.out.println("b is an instance of D");

}

}

*( Choose one )*

* b --> Type A b --> Type D b --> Type C
* b --> Type D
* b --> Type D b --> Type C
* Nothing gets Printed

**3. Question**

Float f=new Float(3.1);

Integer i=new Integer(1);

long m=2;

System.out.println(“Result is “+m+f+i);

What is the output of the sample code above?

*( Choose one )*

* Result is 4.12
* Result is 5.11
* Result is 6.1
* Result is 23.11
* Result is 24.11

**4. Question**

int[] Array1={3,6,2,9,5,8};

int[] Array2=Array1;

int[] Array3=Array2;

Array1[2]=2;

Array2[3]=5;

Array3[4]=7;

Array2[4]=Array3[4];

What is the value of Array1[4] when the sample code above is executed?

*( Choose one )*

* 2
* 3
* 7
* 8
* 9

**5. Question**

class Test{

public static void main(String [] args){

int x= 2;

int y= 1;

for (int z = 0; z < 1; z++){

if (( ++x > 2 ) || (++y > 2)){

x++;

}}

System.out.println(x + " " + y);

}

}

What is the output of the program?

*( Choose one )*

* 4 2
* 6 1
* 4 1
* 6 2

**6. Question**

What will be the output of the program?

String oldStr = "ABC";

oldStr.toLowerCase(); /\* Line 2 \*/

String newStr = oldStr.replace('b', 'B');

newStr = newStr + "def";

System.out.println(newStr);

*( Choose one )*

* Abcdef
* ABCdef
* aBcdef
* def
* ABC

1. Sample Code

int count=0, i=0;

do {

count += i;

i++;

if (count > 5) break;

} while (i<=4);

What is the value of the variable count when the sample code above is executed?

*( Choose one )*

* 0
* 1
* 4
* 6
* 10

**8. Question**

int a=3;

int b=0;

switch(a)

{

case 1:

b=a+2;

case 2:

b=a+3;

case 3:

b=a+4;

case 4:

b=a+5;

case 5:

b=a+6;

default:

b=a\*2;

} // Line A

What is the value of b at Line A in the sample code above?

*( Choose one )*

* 5
* 6
* 7
* 8
* 9

**9. Question**

public class A {

public void a(){

System.out.println("class A");

}

}

public class B extends A{

public void a(){

System.out.println("class B");

}

}

public class C extends B{

public void a(){

super.a();

System.out.println("class C");

}

}

public class D {

public static void main(String[] args) {

A c=new C();

c.a();

}

}

What is the output of the sample code above?

*( Choose one )*

* class A class C
* class B class C
* class C class B
* class B class A
* class A class B

**10. 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? (Choose two.)

1. public class Circle implements Shape {

private int radius;

}

1. public abstract class Circle extends Shape {

private int radius;

}

1. public class Circle extends Shape {

private int radius;

public void draw();

}

1. public class Circle extends Shape {

private int radius;

public void draw() {/\* code here \*/}

}

E. public abstract class Circle implements Shape { private int radius;

public void draw() {/\* code here \*/}

}

*( Choose one )*

* B,D
* A,B,C
* A,D
* B,C,D
* A,B,D

**11. What will be the output of the program?**

abstract class Vehicle {

public int speed() {

return 60; }}

class Car extends Vehicle {

public int speed() { return super.speed(); }}

public class RaceCar extends Car {

public int speed() { return 150; }

public static void main(String args[]) {

|  |  |  |  |
| --- | --- | --- | --- |
| Vehicle | vehicle | | = new Car(); |
| RaceCar | racer | = | new RaceCar(); |
| Car car | = new | RaceCar(); | |

System.out.println(racer.speed() + ", " + car.speed() + ", " + vehicle.speed()); }}

*( Choose one )*

* 150, 150, 150
* 150, 150, 60
* 60 ,60, 150
* 0 ,0, 0

1. **Which of the following are valid declarations?**
   1. int i = 0XCAFE;
   2. boolean b = 0;
   3. char c = 'A';
   4. byte b = 128;
   5. char c = "A";

*( Choose one )*

* 1,2,3
* 1,4
* 1,3
* 1,4,5

**13. Question**

class Animal{ void speak(){ System.out.println("speak"); } }

class Dog extends Animal{ void speak(){ System.out.println("woof!"); } } class Cat extends Animal{ void speak(){ System.out.println("meow!"); } } class AnimalTest{

public static void main( String[] args ){

Animal[] animals = new Animal[3];

animals[0] = new Animal();

animals[1] = new Cat();

animals[2] = new Dog();

for( int i=0; i < animals.length; i++ )

animals[i].speak();

}

}

What is the result of executing the sample code above?

*( Choose one )*

* speak meow! woof!
* woof! speak meow! Speak
* speak speak speak
* speak speak meow! speak woof!
* speak woof! meow! Speak

**14. Question**

public class Test {

public static void main(String[] args) {

String a = "indian";

System.out.println(a.valueOf('i')+" "+a.valueOf('n')+" "+a.lastIndexOf('i')+"

"+a.indexOf('n'));

}

}

*( Choose one )*

* 0 1 3 1
* i n 3 1
* compilation error
* 0 1 1 1
* i n 1 1

**15. Question**

What gets written on the screen when the following program is compiled and run. Select the one right answer.

public class test {

public static void main(String args[]) {

int i;

float f = 2.3f;

double d = 2.3;

i = ((int)Math.ceil(f)) \* ((int)Math.round(d));

System.out.println(i);

}

}

*( Choose one )*

* 4
* 6
* 9
* 0

**16. Question**

public class Class1 {

static void fix(String s) {

s = s.trim();

s = s.replace(' ', '\_');

}

public static void main(String args[]) {

String s = "> Hello World <";

fix(s);

System.out.println(s);

}

}

What is the output of the sample code above?

*( You can choose multiple options )*

* Hello World <
* >Hello\_World<
* >Hello World <
* >HelloWorld<
* >\_Hello\_World\_<

**17. Question**

int i1 = 2;

int i2 = 5;

double d;

d = 3 + i1 / i2 + 2;

What is the value of d after the sample code above is executed?

*( Choose one )*

* 3.0
* 5.0
* 5.2
* 5.4
* 7.5

**18. Question**

class Test {

public static void main(String args[]){

int x = 0;

Test p = new Test();

p.doStuff(x);

x++;

System.out.print(" main x = " + x);

}

void doStuff(int x) {

x++;

System.out.print(" doStuff x = " + x);

}

}

What is the result?

A. Compilation fails.

B. An exception is thrown at runtime.

C. doStuff x = 1 main x = 1

D. doStuff x = 2 main x = 2

E. doStuff x = 1 main x = 2

*( Choose one )*

* A
* B
* C
* D
* E

**19. Question**

public Object m(){

Object o = new Long(123L); /\* Line 1 \*/

Object [] oa = new Object[1];

oa[0] = o; /\* Line 4 \*/

o = null; /\* Line 5 \*/

o = new Long(234L); /\* Line 6 \*/

oa[0] = new Long(567L); /\* Line 7 \*/

return o; /\* Line 8 \*/

}

When is the Long object created in line 1 eligible for garbage collection?

*( Choose one )*

* just after line 5
* just after line 6
* just after line 7
* just after line 8

**20. Question**

Which of the following requires explicit casting?

*( Choose one )*

* int i = 5000; double d = i;
* long l = 23545; float f = l;
* double d = 12321;long l = d;
* double d = (6.5/2.0) + 100 \* 0.5;

1. **Given:**

public double myFunction(int num) {

double rslt = (double) num;

try {

rslt = SqrRoot(rslt);

} catch (ArithmeticException e) {

rslt = 0;

} finally { --rslt;

}

return rslt;

}

public double SqrRoot(double value) throws ArithmeticException { if (value >= 0)

return Math.sqrt(value);

else

throw new ArithmeticException();

}

What value is returned when you invoke method myFunction(4)?

*( Choose one )*

* -2.0
* -1.0
* 0
* 1.0
* 2.0

**22. Question**

class StringArrayTest{

public static void main(String [] args){

String [][] array = new String[2][2];

array[1][0] = "hello";

System.out.println(array[1][0].length());

}

}

What will be the output of the program?

*( Choose one )*

* 5
* NullPointerException is thrown
* compilation fails
* 0

**23. Question**

public class Test {

public static void main(String args[]) {

try{

Object o1 = new Short("22"); //line x

Integer i1 = (Integer)o1; //line

System.out.println(11);

y

}

catch(ClassCastException e){

System.out.println("Exception Occured");

}

}

}

What is the output when the above code is executed?

*( Choose one )*

* 22.0
* Exception Occurred
* Compilation error in Line x
* Compilation error in Line y

1. **What is the output of the below code.**

class A{

public void doA(){

B b = new B();

b.doB();

System.out.print("doA completed");

}}

class B{

public void doB(){

if(true)

throw new RuntimeException();

System.out.print("doB completed");

}}

public class Test{

public static void main(String args[]){

try{

A a = new A();

a.doA();

}catch(Exception ex){

System.out.print("Exception Occured");

}

}

}

*( Choose one )*

* Exception Occurred
* doA completed Exception Occurred
* doB completed doA completed Exception Occurred
* doB completed doA completed
* nothing is printed

1. **Which code fragment returns a string representation of num, where num is an int?**

*( Choose one )*

* ((Object j).newString(num)
* **new Integer(num).toString()**
* Str(num)
* new String(num)
* (String) num

**26. Question**

class A {

int i=0;

public A() { i=8; }

public static void main(String args[]) {

|  |  |  |
| --- | --- | --- |
| int | i | = 0; |
| A h | = | new A(); |
| while | | (h.i <= 10) h.doIt(); |

}

public static void doIt() {

i++;

System.out.println("Hello");

}

}

What is the result of the sample code above when executed?

*( Choose one )*

* It prints "Hello" 2 times.
* It prints "Hello" 3 times.
* It prints "Hello" 11 times
* It does not compile because variable i has been declared twice.
* Compilation Error : doIt() cannot reference non-static variable i

1. **Sample code**

public class Test {

public static void main(String[] args) { StringBuffer[] messages = new StringBuffer[5]; messages[0].append("Hello, World!");

System.out.println("First message is " + messages[0]);

}

}

What is the result of the sample code above?

*( Choose one )*

* First message is null
* A NullPointerException is thrown
* The code does not compile
* An ArrayIndexOutOfBounds is thrown
* First message is Hello, World!

1. **Given:**

1.

1. public class Hi {
2. void m1() { }
3. protected void m2() { }
4. }
5. class Test extends Hi {
6. // insert code here
7. }

Which four code fragments, inserted independently at line 7, will compile? (Choose four.)

A. public void m1() { }

B. protected void m1() { }

C. public void m2() { }

D. protected void m2() { }

E. private void m1() { }

F. void m2() { }

G. private void m2() { }

*( Choose one )*

* ABCD
* AEFG
* DEFG
* ABEF
* CDEF

1. **What is the output of the below code**

class Test {

public static void main(String args[]) {

char ch = 'V';

String str1 = "MGAIT";

String str2 = new String("mgait");

if(str2.equals(str1)) {

if(str2 != str1)

ch = str2.charAt(4);

}

else {

if(str2 == str1)

ch = str2.charAt(1);

else

ch = str2.charAt(2);

}

System.out.println(ch);

}

}

*( Choose one )*

* V
* a
* g
* m
* t
  1. **Analyze the following code.**

1. import java.util.\*;
2. public class Test {
3. public static void main(String[] args) {
4. Calendar[] calendars = new Calendar[10];
5. calendars[0] = new Calendar();
6. calendars[1] = new GregorianCalendar();
7. }
8. }

(a)The program has a syntax error on Line 4 because java.util.Calendar is an abstract class (b)The program has a syntax error on Line 5 because java.util.Calendar is an abstract class. (c)The program has a syntax error on Line 6 because Calendar[1] is not of a GregorianCalendar type

(d)Both (a) and (b) above

(e)Both (b) and (c) above.

*( Choose one )*

* a
* b
* c
* d
* e

1. In implementing two classes Employee and Manager, such that each Manager is an Employee, what should be the relationship between these classes. Select the one correct answer.

* Employee should be the base class of Manager class.
* Manager should be the base class of Employee class
* Manager class should include the Employee class as a data member.
* Employee class should include Manager class as a data member.
* The Manager and Employee should not have any relationship

**32. Question**

interface I1{

int i=0;

}

interface I2 extends I1{

int i=1;

}

class Test implements I2

{

int i=3;

public static void main(String args[])

{

I1 obj=(I2)new Test();

System.out.println(obj.i);

}

}

What is the output of the program?

*( Choose one )*

* 0
* 1
* 3
* Compilation Error

1. **Which two of the following are legal declarations for abstract classes and interfaces?**
   1. public abstract class Test {}
   2. public static interface Test {}
   3. interface Test {}
   4. protected abstract class Test {}
   5. protected interface Test {}
   6. final abstract class Test {}

*( Choose one )*

* 1 and 2
* 3 and 6
* 1 and 3
* 4 and 6
* 1 and 5

**34. Question**

class Base{

void display() {

System.out.println("Base" ); }

}

class Derived extends Base {

void display() throws NullPointerException { System.out.println("Derived" ); }

}

class Test {

public static void main(String args[]){

Derived b=new Derived();

b.display(); }

}

What will be the output of the program?

*( Choose one )*

* Base
* Derived
* compile error
* run time error

**35. Question**

class FourWheeler {

FourWheeler(int i) {

System.out.println("FourWheeler started");

}

}

class Car extends FourWheeler {

Car(int j, String s2) {

super(j);

System.out.println("Car Started");

}

}

public class Test {

public static void main(String[] args) {

new Car(1, "c");

}

}

*( Choose one )*

* FourWheeler started Car Started
* Car Started
* compilation error
* FourWheeler started