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| --- | --- |
| 1.Which of the following declarations of an array is incorrect?  public static void main(String[] args) {  int[] a[];  int b[3];  int []c[];  int[] d[];  }  Ans: 1. a 2. b 3. c 4. d | 2) What is true after running the following code? (choose 2)  public static void main(String[] args) {  String entries[] = {"entry1","entry2"};  int count=0;  while (entries [count++]!=null){  System.out.println(count);  }  System.out.println(count);  }  Ans:  1 An Exception will be thrown  2 0 will be printed as part of the output  3 2 will be printed as part of the output  4 3 will be printed as part of the output |
| 3)What is the result of compiling and running the following code?  public static void main(String[] args){  byte b1= 25;  byte b2=45;  byte b3= b1+b2;  }  1 a)70  2 b)CompileError  3 c)25  4 d)RunTimeException | 4) What is the result of compiling and running the following code?  public class Tester {  public static void main(String[] args) {  String stmt = "Ojas 2009";  String[] arr = stmt.split(" ");  try {  int x = Integer.parseInt(arr[1]);  System.out.print(x);  } finally {  System.out.print("finally");  }  }  }  Ans:  1 2009  2 finally  3 2009finally  4 No output will be produced  5 Compilation error |
| 5) What is the result of running the following program (which was compiled fine) given the  command line:  java Tester one two  public class Tester {  public static void main(String[] args) {  if (args.length > 0)  for (String str : args)  System.out.print(str);  System.out.print("--");  }  }  Ans:  1 one--two--  2 onetwo  3 onetwo--  4 Tester--one--two--  5 Testeronetwo-- | 6) What is the result of compiling and running the following code?  public static void main(String[] args) {  boolean flag = false;  int x = 0;  do {  x++;  } while (flag=!flag);  System.out.println(x);  }  Ans:  1. 0  2.1  3. 2  4. 3  5 .Compilation error  6 .The loop is infinite and will cause  the program to break |
| 9)What is true about has-a and is-a relationships? (Choose two)  A) Instance variables can be used when creating a has-a relationship.  B) Inheritance represents an is-a relationship.  C) Inheritance represents a has-a relationship.  D) Instances must be used when creating a has-a relationship. | 10) Given the code. What is true?  public class Room {  public int roomNr;  private Date beginDtm;  private Date endDttm;  public void book(int roomNr, Date beginDttm, Date endDttm) {  this.roomNr = roomNr;  this.beginDtm = beginDttm;  this.endDttm = endDttm;  }  }  A) The code demonstrates polymorphism.  B) The class is fully encapsulated.  C) The variable roomNr breaks encapsulation.  D) Variables beginDttm and endDttm break polymorphism.  E) The method book breaks encapsulation |
| 11.What is the result of compiling and running the following code?  public static void main(String[] args) {  String s1 = null;  String s2 = null;  if (s1 == s2)  System.out.print("A");  if (s1.equals(s2))  System.out.print("B");  }  No. Answers Correct  1 "AB" will be printed  2 "A" will be printed followed be a  NullPointerException thrown  3 "B" will be printed  4 No output is produced | 12.What is the expected output?  public static void main(String args []) {  String stmt = null;  System.out.print(null+stmt);  System.out.print(stmt+null);  }  No. Answers Correct  1 RuntimeException is thrown because of the first  print statement  2 RuntimeException is thrown because of the second  print statement  3 nullnullnullnull  4 nullnull  5 compilation error |
| 13.What is the correct output?  public interface Father {  public void go();  }  public interface Mother {  public void go();  }  class Test implements Father, Mother { // line 1  public void go(){ // line 2  System.out.println("Child");  }  public static void main(String args[]) {  new Test().go(); // line 3  }  }  No. Answers Correct  1 Compilation error in line 1  2 compliation error in line 2  3 Child  4 compilation error in line 3 | 14.What is the correct output?  class Test {  static void go(int z){  System.out.println("int");  }  static void go(Object z){  System.out.println("Object");  }  static void go(Double z){  System.out.println("Double");  }  static void go(Number z){  System.out.println("Number");  }  public static void main(String... args) {  Integer i = 6;  go(i);  }  }  Ans: Number |
| 15.Predict the output for below code. ?  boolean a = true;  boolean b = !true;  boolean c = a | b;  boolean d = a & b;  boolean e = d ? b : c;  System.out.println(d + " " + e);  Ans:!true true | 16.Predict the output when you call bunnyEars2(5)?  public static int bunnyEars2(int bunnies)  {  if (bunnies == 0) return 0;  else if (bunnies % 2 == 0) return 3 + bunnyEars2(bunnies ‐ 1); else return 2 + bunnyEars2(bunnies ‐ 1);  }  Ans:Compilation Error |

17)What is JVM and is it platform independent?

Ans: JVM is a Java Virtual Machine .It is a specification that provides runtime environment in which java bytecode(.class files) can be executed.The JVM is the platform without which we can not run a java application.The JVM is not platform independent.

18)What do you mean by platform independence of Java?

Ans: The meaning of Platform independent is that the java compiled code(byte code) can run on all operating systems.A program is written in a language that is a human-readable language. So compiler translates the source code from a programming language into executable code.Java is a platform independent language,the JVM is platform -dependent.Different JVM is designed for different OS and the byte code is run on different OS.

19) Which class is the superclass of all classes?

Ans: Object class is the super class of the class hierarchy, which is prsent in java.lang package.All predefined classes and user-defined classes are the subclasses from object class.

20)Whatis difference between path and classpath variables?

Ans: path is used to define where the system can find the executables(.exe) files and classpath is used to specify the location.class files.path is set for use java tool in our java program like java,javac,javap. Classpath is the path for java application where the classes we compiled will be available.

21)Write a program display natural numbers in the given range using method.

Ans: public class NaturalNumRecursion {

static String naturalNumbers(int startValue, int endValue) {

String res = " ";

if (endValue == startValue) {

return endValue +"";

}

res += startValue;

return res + " " + *naturalNumbers*(startValue+1, endValue);

}

public static void main(String[] args) {

System.*out*.println(*naturalNumbers*(10, 15));

}

}

O/P:10 11 12 13 14 15

22)Write a program read "Welcome to Java" and display Emoclew Ot avaJ

public class ReverseEachWord {

public static void main(String[] args) {

String str = "Welcome to Java";

String result = Arrays.*asList*(str.split(" ")).stream().map(s -> new StringBuilder(s).reverse()).collect(Collectors.*joining*(" "));

System.*out*.println(result);

}

}

O/P:Emoclew Ot avaJ

23) What a program find product of given number using Russian Multiplication?

public class RussianMul {

public static void main(String[] args) {

Scanner sc = new Scanner(System.*in*);

System.*out*.println("Enter two values:");

int firstNum = sc.nextInt();

int secNum = sc.nextInt();

String res = firstNum + " : " + secNum + " \n ";

int total = 0;

if (firstNum % 2 != 0) {

total += secNum;

}

while(firstNum > 1 ) {

firstNum = firstNum /2 ;

secNum = secNum \* 2;

res += firstNum + " : " +secNum + "\n";

if (firstNum % 2 != 0) {

total += secNum;

}

}

System.*out*.println(res);

System.*out*.println("Product:" + total);

}

}

O/P:Enter two values:

21 21

21 : 21

10 : 42

5 : 84

2 : 168

1 : 336

Product:441

24)What is final keyword in java?

Ans: Final is a keyword which can be applied to variables,methods and classes.Final variable must be initialized and they cannot be assigned.The final keyword can be applied to instance variables,static variables ,local variables,parameters and reference variables. By declaring the variable as final we are creating a constant in a java program.

25)what is package and how to create our own package in java .

Ans: A package is a collection of classes and interfaces which are related.The purpose of a package is to improve the performance and increase accessibility.

packages are classified into two types:

1.Predefined packages

2.userdefined packages

**predefined packages**: The packages which are available as part of the java software given by either SUN Microsystems or some other organizations are called predefined packages.

**userdefined packages:** The packages which are created by the user or the programmer are called as user defined packages.

To create a user defined package we use package we use package keyword.

26)What is an Exception and what keywords are available to handle exception comment each one of them.

Exception: It is an abnormal interuption in the program and it is a runtime error which occurs because of the programmer failure(logical,invalid inputs etc..) .Exception is the super most class of all the Exceptions.

There are 5 keywords are available to handle exception. They are 1.try 2.catch 3.finally 4.throws 5.throw

1.Try: A try is a block, in which we can specify a group of statements that may generate an exception.

2.Catch: A catch is a block, in which we can specify a group of statements that will display the information of the exception that has occured.

3.Finally: A finally is a block , in which we can specify a group of statements, thta will perform code cleanup activities like releasing memory,resourses etc. If exception raised or not but finally block will be excuted.

4.Throws: It is designed to trasfer or delegate the responsibility of exceptionhandling to its caller.The throws keyword will not handle exceptions.

5.Trow: The throw keyword is used to throw an exception object explicitlyto the JVM.

Note: Excpetion handling can be done only by using try-catch block.

27**)** What is this keyword and super keyword in java?

This keyword: It can be used to access the instance members of the current class.It can be specified either in cinstructors or instance methods of the current class.It cannot be specified in static methods.

Super keyword: It can be used for accessing instance members of the parent class.It can be specified either in child class constructor or child class instance methods.It cannot be specified in child class static methods.

28)When will you get NullPointerException?

Ans: NullPointerException is a Runtime Exception in java. A Special null value can be assigned to an object reference.NullPointerException is thrown when program attempts to use an object reference that has the null value.

29)How to create our own Exception in java?

Ans: Sometimes it is required to develop meaningful exceptions based on the application requirements. We can create our own exceptions by extending Exception class in java. User defined exceptions in java are known as custom Exceptions.

30)Write a program to sort array elements in ascending order?

public class BubbleSort {

static void bubbleSort(int[] arr) {

int n = arr.length;

int temp = 0;

for (int i = 0; i < n; i++) {

for (int j = 1; j < (n - i); j++) {

if (arr[j - 1] > arr[j]) {

// swap elements

temp = arr[j - 1];

arr[j - 1] = arr[j];

arr[j] = temp;

}

}

}

}

public static void main(String[] args) {

int arr[] = { 3, 60, 35, 2, 45, 320, 5 };

System.*out*.println("Array Before Bubble Sort");

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

System.*out*.print(arr[i] + " ");

}

System.*out*.println();

*bubbleSort*(arr);// sorting array elements using bubble sort

System.*out*.println("Array After Bubble Sort");

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

System.*out*.print(arr[i] + " ");

}

}

}

O/P:Array Before Bubble Sort

3 60 35 2 45 320 5

Array After Bubble Sort

2 3 5 35 45 60 320