**100 Tricky Java Questions Report**

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**Abstract**

To finish this job, I formed a group with my friends to assist me. We brainstormed about the definition of “tricky”, designed questions as well as searched questions online, performed modification to each collected questions, worked as a committee to control the quality of each problem, etc.

There are in total 100 very tricky Java questions in this document. Each multiple choice question has four properties: A clear answer (AS), a Key Word set (KW), a Difficult Level (DL) and a reason for why it is tricky (WT). I also classified all the questions into an EXCEL file for the convenience of searching and viewing.

In all, this set of 100 Java questions is very, very tricky and of high quality. They almost touch every notion in Java and there are notable differences among the three difficult levels.

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Jin Zhichun helped me a lot in doing document processing works, including part of Excel & Word processing, proofreading and online submission; Yu Gao, Hua Chengxiang, Wu Dan and I formed a committee to perform

1. Brainstorming of how to define “tricky”

2. Thinking of tricky questions

3. Searching questions online

4. Evaluating the quality of each question

5. Doing modifications to each question

6. Writing explanatory documents to each question.

7. Determination of the difficulty level

8. Checking the coverage of all the questions

We are a group and our cooperation remarkably boosted the efficiency as well as the quality of this job.

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**Requirement of this job & sample question**

Requirement:

Questions have to be very tricky questions covering topics from very basic to very advanced topics.

Sample:

What will happen if you put return statement or System.exit (0) on try or catch block ? Will finally block execute?

a. Only putting return in try block, the finally block will execute

b. Only putting System.exit (0) in try block, the finally block will execute

c. Only putting return in try block, the finally block will NOT execute

d. Only putting System.exit (0) in try block, the finally block will NOT execute

**Steps of how I finished this job:**

**Definition of “tricky”**

Mainly 8 kinds of questions can be regarded as “tricky”:

1. Questions that seems to be easy at the first glance, but if just solve it quickly, it is highly possible for people to fall into the trap deliberately designed.

2. Questions that involve confusing notions in Java. Such as “==” vs. “Equal()”, “overloading” vs. “overriding”, the issue of priority, etc.

3. Questions that embraces many possible situations, which means people should consider each possible situations. Such as “overflow”, “exception”, etc.

4. Questions that test deep understanding of normal Java grammars, which means that, for some grammar structures, people may take them for granted, but many other applications should be taken care of. Such as a “switch-case” structure without a “break”.

5. Questions that test notions that usually be ignored. Such as “multi-inheritance”.

6. Questions that seem to be very difficult when analyzed by normal ways of thinking, but turn out to be easy when think out of the box.

7. Just tricky questions, such as questions involve tricky mathematics, “can you write a program just print itself out?” and the calculation of algorithm complexity.

8. Questions test subtle Java programming details. Such as the time of iteration, how to modify the code to make the program work, debugging, etc.

In all, most important things to answer such tricky Java questions are: a careful attitude, analytical thinking and a sound knowledge basis.

**Explanation of form of questions**

1. Every question has a difficulty level. There are three levels of difficulty:

1 stands for easy

2 stands for medium

3 stands for hard

1. Every question has some key words attached. At least 2 (Java and ?), no more than 5. The key words reveal the notions that this question test.
2. Every question originally comes from the Internet has a reference attached (Where it comes from? URL or name and pages of the book/article, all of the references are listed at the “reference” module.)
3. Every question has a clear answer. Sometimes there is just one answer, sometimes there are several answers.
4. Every question has a statement / analysis of reason: why it is tricky?
5. **In “Question list” module:**
   1. **“AS” stands for “Answer of the question”**
   2. **“KW” stands for “Key words of the question”**
   3. **“DL” stands for “Difficulty level of the question”**
   4. **“WT” stands for “Why the question is tricky?”**

**Data Analysis:**

1. Proportion of difficulty levels:

2. Proportion of number of “Concept” and “Program” problems:

**Question list**

1. What does the following Java program print?

public class Test {public static void main(String[] args) { System.out.println(Math.min(Double.MIN\_VALUE, 0.0d)); }}

1. 2^(-1074)
2. 0.0
3. -2147483648
4. 0

AS: B

KW: Java, double, integer

DL: 1

WT: This questions is tricky because unlike the interger, where MIN\_VALUE is negative, both the MAX\_VALUE and MIN\_VALUE of the Double class are positive numbers. TheDouble.MIN\_VALUE is 2^(-1074), a double constant whose magnitude is the least among all double values. So unlike the obvious answer, this program will print 0.0 becauseDouble.MIN\_VALUE is greater than 0. I have asked this question to Java developer having experience up to 3 to 5 years and surprisingly almost 70% candidate got it wrong.

1. What will happen if you put return statement or System.exit (0) on try or catch block ? Will finally block execute?

a. Only putting return in try block, the finally block will execute

b. Only putting System.exit (0) in try block, the finally block will execute

c. Only putting return in try block, the finally block will NOT execute

d. Only putting System.exit (0) in try block, the finally block will NOT execute

AS: AD

KW: Java, exception

DL: 3

WT: This is a very popular tricky Java question and it is tricky because many programmer think that no matter what, but finally block will always execute. This question challenge that misconcept by putting return statement in try or catch block or calling System.exit from try or catch block. Answer of this tricky question in Java is that finally block will execute even if you put returnstatement in try block or catch block but finally block won't run if you call System.exit form try or catch.

1. What does the expression 1.0 / 0.0 will return?

A. Infinity

B. Exception

C. NaN

D. Compile error

AS: A

KW: Java, double, integer

DL: 2

WT: This is another tricky question from Double class. Though Java developer knows about double primitive type and Double class, while doing floating point arithmetic they don't pay enough attention to Double.INFINITY, NaN, and -0.0 and other rules that govern the arithmetic calculations involving them. Simple answer to this question is that it will not throwArithmeticExcpetion and return Double.INFINITY. Also note that the comparison x == Double.NaN always evaluates to false, even if x itself is a NaN. To test if x is a NaN, one should use the method call Double.isNaN(x) to check if given number is NaN or not. If you know SQL, this is very close to NULL there.

1. Does Java support multiple inheritance?

A. Can multiple inherit interface, can multiple inherit class

B. Can multiple inherit interface, cannot multiple inherit class

C. Cannot multiple inherit interface, can multiple inherit class

D. Cannot multiple inherit interface, cannot multiple inherit class

AS: B

KW: Java, inheritance, interface, class

DL: 2

WT: This is the trickiest question in Java, if C++ can support direct multiple inheritance than why not Java is the argument Interviewer often give. Answer of this question is much more subtle then it looks like, because Java does support multiple inheritance of Type by allowing interface to extend other interfaces, what Java doesn't support is multiple inheritance of implementation. This distinction also get blur because of default method of Java 8, which now provides Java, multiple inheritance of behavior as well.

1. How to compute the average of two double values a and b without error?

A. (a+b)/2.0

B. (a/2.0)+(b/2.0)

C. Both OK

D. Neither OK

AS: B

KW: Java, overflow, double

DL: 1

WT: If choosing A, overflow may happen.

1. Consider the following Java code snippet, which is initializing two variables and both are not volatile, and two threads T1 and T2 are modifying these values as following, both are not synchronized.

int x = 0;boolean bExit = false;Thread 1 (not synchronized)x = 1; bExit = true;Thread 2 (not synchronized)if (bExit == true) System.out.println("x=" + x);

What about printing “x=0”?

A. Yes, always print “x=0”

B. No, impossible to print “x=0”

C. Possible to print “x=0”

AS: C

KW: Java, thread

DL: 3

WT: Answer of this question is Yes, It's possible that thread T2 may print x=0.Why? Because without any instruction to compiler e.g. synchronized or volatile, bExit=true might come before x=1 in compiler reordering. Also x=1 might not become visible in Thread 2, so Thread 2 will load x=0. Now, how do you fix it? When I asked this question to couple of programmers they answer differently, one suggest to make both thread synchronized on a common mutex, another one said make both variable volatile. Both are correct, as it will prevent reordering and guarantee visibility. But best answer is you just need to make bExit as volatile, then Thread 2 can only print “x=1”. x does not need to be volatile because x cannot be reordered to come after bExit=true when bExit is volatile.

1. Can you access non static variable in static context?

A. Yes

B. No

AS: B

KW: Java, static

DL: 1

WT: Another tricky Java question from Java fundamentals. No you cannot access non-static variable from static context in Java. If you try, it will give compile time error. This is actually a common problem beginners in Java face, when they try to access instance variable inside main method. Because main is static in Java, and instance variables are non-static, you cannot access instance variable inside main.

1. Read the following program:

import java.io.\*;

public class TypeTransition{

public static void main (String args[]){

char a = ‘a’;

int i =100;

long y=456L;

int aa=a+i;

long yy=y-aa;

System.out.print(“aa = ”+aa);

System.out.print(“yy = ”+yy);

}

}

The result of the program would be:

A. aa = 197 yy = 259

B. aa = 177 yy = 259

C. aa = 543 yy = 288

D. aa = 197 yy = 333

AS: A

KW: Java, transformation rule

DL: 1

WT: Because in the code int aa = a+i, the data type of a is char, while the data type of i is int. When these two type of data is added, according to the transformation rule, a would be transformed into 97, cause 97 is the ASCII code for char a. Then aa would equal to 197. According to the same reason, in the code long yy = y-aa, the data type of yy is long, while aa is int. So, aa would be transformed into 197 as data type long, the result of calculation would be 259. So, the correct choic of the question would be A. This question tests the transformation rule of data types. The transformation rule supports the automatic transformation when constructing calculations between different data types. The transformation can only happen from low digits to high digits.

1. What’s the complexity for the following program?

public String joinWords(String[] words) {

String sentence = “”;

for (String w : words) {

sentence = sentence + w;

}

return sentence;

}

A O(n^2)

B O(n^n)

C O(log(n))

D O(n)

AS: A

KW: Java, String, Complexity

DL: 2

WT: If we use “+” connect String object , String class will create a String object for each element here.

10. Which of the following are correct in Java?

A. Math.Round(3.74, 1) = 3.7

B. Math.Round(3.75, 1) = 3.8

C. Math.Round(3.85, 1) = 3.9

D. Math.Round(3.85, 1) = 3.8

AS: ABD

KW: Java, round

DL: 2

WT: This is called banker’s rounding, when the last digit is less or equal to 4, drop it; when the last digit is greater or equal to 6, drop it and the front digit should increase by 1; when the last digit equals to 5, it depends on the front digit. If the front digit is an odd number, drop it and the front number increased by 1; if the front digit is an even number, just drop it.

11. What’s the output of the following program:

public class Application {

public static void main(String[] args) {

String one = "Hello";

String two = "Hello";

if(one == two) {

System.out.println("one == two");

}

else {

System.out.println("one != two");

}

}

}

1. one != two
2. one == two
3. Compile Error
4. Runtime Error

AS: B

KW: Java, Equal, equal sign

DL: 3

WT: Surprised? Or not? If you're a complete beginner, you'll probably assume that comparing two strings with == will tell you if they contain the same characters or not.

More advanced programmers will know that == actually tells you whether two references refer to the same object or not. So you might think the above code would say that the strings are not equal

The catch is, Java optimises in this case by actually using the same object for these two identical strings. Pretty crazy eh?!

12. What’s the output of the following program :

interface IFruit

{

public String TYPE = "Apple";

}

class Fruit implements IFruit

{

}

public class Application {

public static void main(String[] args) {

System.out.println(Fruit.TYPE);

}

}

A. Apple

B. (empty)

C. Runtime Error

D. Compile Error

AS: A

KW: Java, Implements, Subclass

DL: 1

WT: It's a little strange if you're not used to it, but a class that implements an interface also gets the interface's data members.

What's even stranger is that these data members are static and final even if you don't say so. This use of interfaces is arguably a gross misuse; interfaces should not be used to store constants. But you can still find it in all kinds of APIs.

13. What’s the result of the program:

class Fruit {

protected static String name = "Sue";

}

class Apple extends Fruit {

}

public class Application {

public static void main(String[] args) {

System.out.println(Apple.name);

}

}

A. (empty)

B. Sue

C. Compile Error

D. Runtime Error

AS: B

KW: Java, Inherit, protected

DL: 2

WT: The protected access modifier allows variables to be accessed by derived classes or classes within the same package. Since all our code here is in the default package, it compiles.

14. What’s the output of the following program:

public class Application {

public static void main(String[] args) {

final class Constants {

public static String name = "PI";

}

Thread thread = new Thread(new Runnable() {

@Override

public void run() {

System.out.println(Constants.name);

}

});

thread.start();

}

}

1. PI
2. (empty)
3. Compile Error
4. Runtime Error

AS: C

KW: Java, Static

DL: 2

WT: The problem here is that you can only use static variables in static or top-level classes, and we've got a static variable in a class that isn't top-level.

15: What’s the output of the following program:

public class Something

{

public static void main(String[] args)

{

Something s = new Something();

System.out.println("s.doSomething() returns " + doSomething());

}

public String doSomething()

{

return "Do something ...";

}

}

1. s.doSomething() returns Do something…
2. Compile Error
3. Runtime Error

AS: B

KW: Java, Static

DL: 1

WT: Seeming call method: doSomething int the main function.

However the main function is modified by static.

static method cannot call non-static methods directly.

Can change to : ”System.out.println("s.doSomething() returns " + s.doSomething());”.

16. What’s the output of the program snippet?

int start = 1;

char end = 5;

System.out.print(start + end);

1. 6
2. Compile Error
3. Runtime Error

AS: A

KW: Java, int, plus symbol

DL: 1

WT: First character will be automatically type caste to int. Finally output is 6

17. What’s the result of the following program snippet?

long longWithL = 1000\*60\*60\*24\*365L;

long longWithoutL = 1000\*60\*60\*24\*365;

System.out.println(longWithL);

System.out.println(longWithoutL);

A.

1471228928

31536000000

B.

31536000000

31536000000

C.

1471228928

1471228928

D.

31536000000

1471228928

AS: D

KW: Java, long, multiple

DL: 2

WT: In case of first variable, we are explicitly making it a long by placing a “L” at the end, so compiler will treat this at long and assign it to first variable.

In second case, compiler will do the calculation and treat it as a 32-bit integer, since the output is outside the range of integer max value (2147483647), compiler will truncate the most significant bits and then assign it to the variable.

Binary equivalent of 1000\*60\*60\*24\*365L = 011101010111101100010010110000000000 (36 bits)

Removing 4 most significant bits to accommodate in 32-bit int, value = 01010111101100010010110000000000 (32 bits)

Which is equal to 1471228928 and hence the output.

18: What’s the result of the following program snippet?

HashSet shortSet = new HashSet();

for (short i = 0; i < 100; i++) {

shortSet.add(i);

shortSet.remove(i - 1);

}

System.out.println(shortSet.size());

1. 2
2. 100
3. 1
4. 101

AS: B

KW: Java, HashSet

DL: 2

WT: The size of the shortSet will be 100. Java Autoboxing feature has been introduced in JDK 5, so while adding the short to HashSet<Short> it will automatically convert it to Short object. Now “i-1″ will be converted to int while evaluation and after that it will autoboxed to Integer object but there are no Integer object in the HashSet, so it will not remove anything from the HashSet and finally its size will be 100.

19. What’s the output of the following program snippet?

String dog1=**new** String("dog");

String dog2=**new** String("dog");

System.***out***.println(dog1==dog2);

1. ture
2. false
3. 1
4. 0

AS: B

KW: Java, ==，.equal()

DL: 1

WT: The difficulty between “==” and “.equal()” is tricky

20. Think about the following program snippet:

Public class Person{

int person[] = new int[10];

public static void main(String args[]){

System.out.println(person[1]);

}

}

A: error in compiling

B: Ok in compiling, error in running

C: output”0”

D: output ”null”

AS: A

KW: Java, Array, exception

DL:1

WT: In order to answer this question, the person must be skilled with the definition of Array and know how to handle the exceptions of arrays well.

21. Consider the following program:

public class OuterClass{

Private class InterClass{

Public InterClass(){

System.out.println(“OuterClass create”);

}

}

Public OuterClass(){

InterClass ic =new InterClass();

System.out.println(“InterClass create”);

}

public static void main(String[] args){

OuterClass oc = new OuterClass();

}

}

What is the output:

A. InterClass create

OuterClass create

B. OuterClass create

InterClass create

C. InterClass create

D. OuterClass create

AS: B

KW: Java, InterClass, OuterClass

DL: 1

WT: The sequence of operating the inter class and the outer class is tricky.

22. Foe the following for declarations, which one is legal?

A、default String s； B、public final static native int w( )

C、abstract double d； D、abstract final double hyperbolicCosine( )

AS: D

KW: Java, modification, default, abstract, native

DL: 1

WT: One must know the usage of modification very well.

23: What’s the type of answer will it return?

ReturnType method(byte x, double y) {

return (short)x/y\*2; }

A、byte B、short C、int D、double

AS: D

KW: Java, type, byte, short, int, double

DL: 1

WT: The one must know well about the types of data.

24. If a is 3, what will be the value of c after the execution of this program snippet?

if ( a>0 )

if ( a>3 ) c = 2;

else c = 3;

else c = 4;

A、1 B、2 C、3 D、4

AS: C

KW: Java, if, priority

DL: 2

WT: Understanding the priority of “if” statement is tricky.

25.What’s the outcome?

int total = 0;

for ( int i = 0; i < 4; i++ ){

if ( i == 1) continue;

if ( i == 2) break;

total += i;

}

A、0 B、1 C、3 D、6

AS: A

KW: Java, continue, break

DL: 2

WT: One must be very skilled at understanding “continue” and “break”

26: What’s the outcome of the following program?

public class Example{

String str=new String("good");

char[] ch = {'a','b','c'};

public static void main(String args[]){

Example ex=new Example();

ex.change(ex.str,ex.ch);

System.out.print(ex.str+" and ");

Sytem.out.print(ex.ch);

}

public void change(String str,char ch[]){

str="test ok";

ch[0]='g';

}

}

A、 good and abc B、 good and gbc C、 test ok and abc D、 test ok and gbc

AS: B

KW: Java, String, char, array

DL: 2

WT: You cannot directly perform assignment and replacement directly in String, but they work well for char arrays. It test your understanding of String and array. In Java, there is no transmission of quotation. Only value can be transmitted. The value here means the copy of the address. Only the address can be modified by this way, the quotation of the address would remain unchanged. So, the correct answer is B.

27. The following program defines a static variable sum. Please analyze the output:

class ClassDemo {

public static int sum=1;

public ClassDemo() {

sum = sum + 5;

}

}

public class ClassDemoTest{

public static void main(String args[]) {

ClassDemo demo1=new ClassDemo();

ClassDemo demo2=new ClassDemo();

System.out.println(demo1.sum);

}

}

A. 1 B. 6 C. 11 D. 16

AS: C

KW: Java, range

DL: 2

WT: It tests the effective range of data.

28. What’s the returned value when the input is 2?

public int getValue(int i) {

int result = 0;

switch (i) {

case 1:

result = result + i;

case 2:

result = result + i \* 2;

case 3:

result = result + i \* 3;

}

return result;

}

A）0 B）10 C）4 D）6

AS: B

KW: Java, Switch

DL: 3

Why tricky: It is very tricky because there is no “break” at the end of each case. It is a trap!

29. Read the following program:

public class OperatorsAndExperssions {

void equalsMethod1 () {

String s1 = new String (“how are you”);

String s2 = new String (“how are you”);

System.out.println( s1==s2 );

}

public static void main (String args[]) {

OperatorsAndExpressions OperAnd Exp = new OperatorsAndExpressions ();

OperAndExp.equalsMethod1();

}

}

The result of the program would be:

A. s1 == s2

B. true

C. false

D. equal

AS: C

KW: Java, operator

DL: 2

WT: The definition part of equalsMethod1() is quite normal. Just define two string objects, s1 and s2. Then, it makes compare between s1 and s2. However, the operator “==” is used to make compare whether two objects are the same one. Obviously, s1 and s2 have the same value, which is “how are you”. However, they are not the same objects. So, the correct answer of the question is C.

30. The output of the following program?

public class Test {

public static void main(String args[]){

int a, b;

for (a=1, b=1; a<=100; a++){

if (b>=10) break;

if (b%2==1){

b+=2;

continue;

}

}

System.out.println(a);

}

}

A. 5

B. 6

C. 7

D. 101

AS: B

KW: Java, for, if, break, continue

DL: 2

WT: this question requires the definition of for circulation, if sentence and break, continue sentence. The definition of the first if sentence is that exit from the for circulation if b is not less than 10. The definition of the second if sentence is that if b%2=1, the value of b pluses 2 and exits from the circulation. In this program, when b equals to 1, 3, 5,7 and 9, the program would execute the circulation for 5 times. At that time, a=5 and b=9. When executing the sixth circulation, a=6 while b=11, so the program breaks from the circulation and ends.

31. What’s the output of the following code snippet:

String str = null;

String str1="abc";

System.out.println(str1.equals("abc") | str.equals(null));

A. true

B. false

C. Compile Error

D. Runtime Error

AS: D

KW: Java, logic operation, initialization

DL: 2

WT: The given print statement will throw java.lang.NullPointerException because while evaluating the OR logical operator it will first evaluate both the literals and since str is null, .equals() method will throw exception. Its always advisable to use short circuit logical operators i.e “||” and “&&” which evaluates the literals values from left and since the first literal will return true, it will skip the second literal evaluation.

32. Is that possible to write a java program that can print it self exactly

1. Sure
2. Impossible

AS: A

KW: Java, Self-print

DL: 3

WT:

Here is the solution:

public class Quine

{

public static void main(String[] args)

{

char q = 34; // Quotation mark character

String[] l = { // Array of source code

"public class Quine",

"{",

" public static void main(String[] args)",

" {",

" char q = 34; // Quotation mark character",

" String[] l = { // Array of source code",

" ",

" };",

" for(int i = 0; i < 6; i++) // Print opening code",

" System.out.println(l[i]);",

" for(int i = 0; i < l.length; i++) // Print string array",

" System.out.println(l[6] + q + l[i] + q + ',');",

" for(int i = 7; i < l.length; i++) // Print this code",

" System.out.println(l[i]);",

" }",

"}",

};

for(int i = 0; i < 6; i++) // Print opening code

System.out.println(l[i]);

for(int i = 0; i < l.length; i++) // Print string array

System.out.println(l[6] + q + l[i] + q + ',');

for(int i = 7; i < l.length; i++) // Print this code

System.out.println(l[i]);

}

}

33. Is that possible to add code in the if() statement making the output is “Hello World!”

public static void main(String[] args) {

try {

if () {

System.out.print("Hello ");

} else {

System.out.println("world!");

}

} catch (Exception e) {

e.printStackTrace();

}

}

1. Sure
2. Impossible

AS: A

KW: Java, Skill

DL: 3

WT: Here is the solution, we can add the following statement into the if()

System.out.append(“Hello ") == null

34. What’s the output of the following code snippet:

class Something {

int i;

public void doSomething() {

System.out.println("i = " + i);

}

 }

1. 0
2. null
3. Compile Error
4. Runtime Error

AS: A

KW: Java, Initialization

DL: 1

WT: int is a kind of instant variable, which has a default value. The default value of int is 0

35. Will the following code snippet be wrong?

abstract class Name {  private String name;

 public abstract boolean isStupidName(String name) {}

}

1. It’s true
2. There is something wrong here.

AS: B

KW: Java, abstract method

DL: 1

WT: An abstract method has to end with ; instead of {}

36. What’s the output of the following program:

import java.util.Random;

public class Test {

public static void main(String[] args) {

StringBuffer sb = null;

Random rand = new Random();

int i = rand.nextInt(2);

switch (i) {

case 1:

sb = new StringBuffer('A');

case 2:

sb = new StringBuffer('B');

default:

sb = new StringBuffer('C');

}

sb.append("i");

sb.append("n");

sb.append("g");

System.out.println(sb);

}

}

1. Aing
2. Bing
3. ABCing
4. ing

AS: D

KW: Java, StringBuffer, Random, Switch

DL: 3

WT: Here are three tricks in the question.

Firstly, i can only be 0 or 1;

Secondly, there are no “break” statement in the program.

Finally, StringBuffer can’t be initialized with a char.

37: What’s the output:

public class Test {

public static void main(String[] args) {

String classPath = "java.lang.String";

System.out.println(classPath.replaceAll(".", "/"));

}

}

1. java/lang/String
2. ////////////////
3. Compile Error

AS: B

KW: Java, Regular Expression, replace

DL: 2

WT: In Regular Expression，”.” represents every character

38. What’s the output of the code snippet:

String str1 = "hello";

String str2 = "he" + new String("llo");

System.err.println(str1 == str2);

1. true
2. false
3. Compile Error

AS: B

KW: Java, equal sign, object

DL: 1

WT: str2 here apply new memory block which is different from str1’s.

“==“ compare the location of objects

39. Are there any situations can make the following happen?

i + 1< i

1. Yes
2. Impossible

AS: A

KW: Java, range, overflow

DL: 1

WT: if i equals the max value of int , then i+1 will overflow which is a negative number

40. What’s the output :

public class NULL {

public static void haha(){

System.out.println("haha");

}

public static void main(String[] args) {

((NULL)null).haha();

}

}

1. Compile Error
2. Runtime Error
3. haha
4. null

AS: C

KW: Java, initialization

DL: 2

WT: null can be changed to any type in java, but the value is still null. The static is related to the name of the class, the result can be outputted correctly without quoting the object. If there is no static, the program would fail.

41. What’s the outcome of the following program?

class Example{

public static void main(String args[]){

boolean flag=false;

if(flag=true){

System.out.println(“true”); }

else{

System.out.println(“false”);

}

}

}

A. failed to be compiled, something wrong with if statement

B. Compiling successful, but throw exceptions when running if statement

C. output “true”

D. output “false”

E. no output

AS: c

KW: Java, print

DL: 1

WT: Please pay attention to the details.

42. Considering the following codes, when adding which of the choice, each element in the array can be printed in sequence?

public static void main(String args[]){

int arr[][]=new int[4][];

arr[0]=new int[4];

arr[1]=new int[3];

arr[2]=new int[2];

arr[3]=new int[1];

for(int n=0;n<4;n++)

System.out.println(/\*The place you can put in your codes\*/); } }

A. arr[n].length();

B. arr.size

C. arr.size-1

D. arr[n][size]

E. arr[n].length()

AS: E

KW: Java, array, length

DL: 3

WT: Testing the understanding towards the “length” method

43. What’s the outcome of this program?

class Example{

public static void main(String args[]){

int index=1;

int foo[]=new int[3];

int bar=foo[index];

nt baz=bar+index;

System.out.println(baz);

} }

A. print ‘0’

B. print ‘1’

C. print ‘2’

D. Throws an exception

E. Compiling error

AS: B

KW: Java, array, empty

DL: 2

WT: It tests the understanding towards an empty array

44. What is the outcome of the following program?

public class Example{

public static void main(String args[]){

boolean[]b=new boolean[2];

double[]d=new double[2];

System.out.print(b[0]);

System.out.println(d[1]);

} }

A. true0.0

B. true0

C. false0.0

D. false0

AS: C

KW: Java, array

DL: 2

WT: It tests the understanding of different types of arrays.

45. Are they valid forms for main()?

A. static void main(String []args){ }

B. public static void main(String []args){ }

C. public static void main(String args[]){ }

D. public static void main(String door[]){ }

AS: ABCD

KW: Java, main, modifier, array

DL: 2

WT: Many people may not pay attention to the main() and they just take the form they are using for granted. So, this question just tests what they may ignore.

46. For the following codes, if executed using the command line “java Example I like tests”, what’s the outcome?

class Example{

public static void main(String []args){

System.out.println(args[l]); } }

A. print “Myprog”

B. print “I”

C. print “like”

D. print “3”

E. print ”4”

F. print “null”

AS: C

KW: Java, main program, command line

DL: 2

WT: It tests the understanding towards the main program.

47. For the following codes, if executed using the command line “c:\somedirectory>java Example”, when finish the “println()” method, an exception is thrown. Which of these statements is true?

A. print “0”

B. throw “NullPointerException” error

C. nothing output

AS: A

KW: Java, command line, exception

DL: 2

WT: It test the usage of the command line.

48. What is the outcome of the following program?

public class Example{

static String s1;

static String s2;

public static void main(String args[]){

s2=s1+s2;

System.out.println(s2);

} }

A. compiling error

B. running error, throw “NullPointerException”

C. print “nullnull”

D. compiling successful, printing blank lines

AS: C

KW: Java, empty set, addition

DL: 3

WT: It tests understanding of the addition of two empty sets.

49. For the following program, add which line of code to line 2 and line 4 in the program, can make this program work successfully?

1.public class Example{

2.

3.public static void main(String args[]){

4.

5.System.out.println("You will need to use"+c);

6.}

7.}

A. char c; into line 2

B. char c; into line 4

C. char c=‟f‟; into line 2

D. char c=‟f‟; into line 4

E. static char c; into line 2

F. char c=new char(); into line 4

AS: EF

KW: Java, sentence, modifier

DL: 3

WT: Testing the effective usage of codes.

50. What’s the outcome of the following program?

public class Example{

public static void add3(Integer i){

int val=i.intValue();

val+=3;

i=new Integer(val); }

public static void main(String args[]){

Integer i=new Integer(0);

add3(i);

System.out.println(i.intValue()); } }

A. compiling error

B. print 0

C. print 3

D. when running the second line, throws an exception

AS: B

KW: Java, intValue, exception

DL: 2

WT: testing the understanding of intValue method.

51. For the following program, the object that first suffers from “garbage collection” shows up in which line?

1．import java.util\*;

2．public class Example{

3

4．Vector v2=new Vector();

5．Vector v1=new Vector();

6．v1=null;

7．vector v3=v1;

8．v1=v2;

9．v1.add(“This”)

10．v1.add(v2);

11．String=(String)v1.

12．v1=v2;

13．v2=v1;

14．v1.add(s);

15．}

16．}

A. 6

B. 7

C. 8

D. 12

AS: A

KW: Java, garbage collection

DL: 1

WT: testing the understanding of garbage collection

52. What’s the outcome of the following program?

class Example{

public static void main(String args[]){

int var=10;

int var2=20;

System.out.println(var+var2+++" "+var2); } }

A. print “10 20 21”

B. print “30 21”

C. print “31 20”

D. print ”31 21”

AS: B

KW: Java, priority

DL: 2

WT: it tests the understanding of the priority of operators

53. What’s the outcome of the following code?

class Example{

public static void main(String args[]){

int x=1;

int y=~x+1;

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

A. print “-11”

B. print “10”

C. print “1-1”

D. print “-1-1”

AS: C

KW: Java, operator, ~

DL: 2

WT: it tests the understanding of operator “~”

54. What’s the outcome of the following program?

class Example{

public static void main(String args[]){ int m=0;

while(m++<2)

System.out.println(m); } }

A. 0

B. 1

C. 2

D. 3

E. throw an exception

AS: BC

KW: Java, while

DL: 2

WT: it tests the deep understanding of “while”

55. Which one of the following sentence about algorithm is correct?

A. The time complexity must be high if the space complexity is high.

B. The time complexity must be low if the space complexity is high.

C. The space complexity must be low if the time complexity is high

D. None of the above is correct.

AS: D

KW: Java, complexity

DL: 1

WT: Normally, people would choose an algorithm which saves time and space. However, sometimes it would waste time if the space is saved, or the space would be wasted if time is saved.

56. What’s the outcome of the following program snippet?

public class foo{

public static void main (String[] args){

String s;

System.out.println("s=" + s);

} }

A. Successfully compiled, output “s=”

B. Successfully compiled, output “s=null”

C: Filed to be compiled

D. Successfully compiled, catch” NullPointException”

AS: C

KW: Java, initialization

DL: 1

WT: s cannot get initialized. All basic types or objects should be initialized before outputting value.

57. What’s the output of the following program?

public static void main(String args[]) {

Thread t = new Thread() {

public void run() {

pong();

}

};

t.run();

System.out.print("ping");

}

static void pong() {

System.out.print("pong");

}

A. pingpong

B. pongping

C. It depends, pingpong and pongping are both possible

D. nothing

AS: B

KW: Java, thread

DL: 2

WT: start() is used to start a thread. Only when it’s called, system will open a new thread, an then use run() method to do the mission. If we call the run function separately, it’s just like a common method

58. What’s the type of 0.6332 in Java?

A. float

B. double

C. Float

D. Double

AS: B

KW: Java, data type

DL: 1

WT: it’s double by default. If 0.6332f, then it’s a float

59. In statement: ArrayList list = new ArrayList(20);

How many times does the list be expended?

A. 0

B. 1

C. 2

D. 3

AS: A

KW: Java, ArrayList, Initialization

DL: 1

WT: This is a tricky question, the length of ArrayList is 10. If you initialize an ArrayList and then add 20 elements continuously, the ArrayList will expend one time. However, if you state the specific length when initialization, it won't expend.

60. What’s the output of the following program snippet?

int a;

a=7;

System.out.print(a);

System.out.print(a++);

System.out.print(a);

A. 777

B. 778

C. 788

D. 787

AS: B

KW: Java, increment

DL: 1

WT: It tests the tricky notion of increment.

61. Which option can replace the //add code here in the following program without occurring an error?

public abstract class MyClass {

public int constInt = 5;

//add code here

public void method() {

}

}

A. public abstract void method(int a);

B. constInt = constInt +5;

C. public int method();

D. public abstract void anotherMethod(){}

AS: A

KW: Java, Abstract class

DL: 2

WT: Abstract can only be used to modify class or method

The abstract method in an abstract class can’t be implemented.

62. When initialize a flow object, which statement following is wrong ?

A. new BufferedWriter(new FileWriter("a.txt"));

B. new BufferedReader(new FileInputStream("a.dat"));

C. new GZIPOutputStream(new FileOutputStream("a.zip"));

D. new ObjectInputStream(new FileInputStream(“a.dat"));

AS: B

KW: Java, Reader , IO

DL: 2

WT: Reader can only be instantiated by FileReader

63. Which of the two option can be used to modify a java interface?

A. private

B. protected

C. final

D. abstract

AS: CD

KW: Java, interface

DL: 2

WT: the default method type in an interface is public abstract

the default properties type of an interface is public static final

Hint: final and abstract can’t be used together !!

64. Which is not method in class Thread?

A. start()

B. run()

C. exit()

D. getPriority()

AS: C

KW: Java, System, Thread

DL: 1

WT: exit() is a method in class System.

65. Can word “ volatile “ protect the thread safety?

A. Yes

B. No

C. Depend on OS

AS: B

KW: Java, Thread safety

DL: 2

WT: Using volatile in multi-thread can keep the change visible. However it can’t ensure the thread safety in writing operation.

66. Can we do the garbage collect by manual with System.gc() or Runtime.getRuntime().gc()?

A. Always

B. Impossible

C. Depend on the JVM

AS: C

KW: Java. SVM

DL: 2

WT: Actually, in jvm we can only notify the system to do gc. Whether it will do depends on certain situation.

67. What’s the outcome of the following code snippet?

System.out.println(3.0/0);

A. Compiling error

B. Runtime error

C. Throw Java.lang,ArithmeticException exception

D. Output “Infinity”

AS: D

KW: Java, double, integer

DL: 1

WT: It test the deep understanding of “double” and “integer” calculation.

68. What’s the output of the following code?

int i = 10;

while ( i > 0 ){ i = i + 1; if ( i = =10 ){ break; } }

A. “While” loop runs for 10 times

B. Dead loop

C. No loop was run

D. “While” loop runs for 1 times

AS: B

KW: Java, loop, while, break

DL: 2

WT: It test the effective range of “break”

69. What’s the outcome of the following program?

public class Test {

public static int aMethod(int i) throws Exception {

try {

return i / 10;

} catch (Exception ex) {

throw new Exception("exception in a aMothod");

} finally {

System.out.print("finally");

}

}

public static void main(String[] args) {

try {

aMethod(0);

} catch (Exception ex) {

System.out.print("exception in main");

}

System.out.print("finished");

}｝

A. finallyexception in mainfinished

B. exception in mainfinally

C. finallyfinished

D. finallyexception in mainfinished

AS: C

KW: Java, try, catch

DL: 3

WT: It tests the deep understanding of “try” and “catch”

70. What’s the outcome of the following program?

public class Test{

public Test(){}

static void print(ArrayList al){

al.add(2);

al=new ArrayList();

al.add(3);

al.add(4);

}

public static void main(String[]args){

Test test=new Test();

ArrayList al=new ArrayList();

al.add(1);

print(al);

System.out.println(al.get(1)); } }

A. 1

B. 2

C. 3

D. 4

AS: B

KW: Java, arraylist

DL: 2

WT: It tests the deep understanding of “ArrayList”

71. Considering the following code, add which piece of the code to “// assignment x=a, y=b” makes the program run correctly?

public class Base{

int w, x, y ,z;

public Base(int a,int b) {

x=a; y=b;

}

public Base(int a, int b, int c, int d) {

// assignment x=a, y=b

w=d;

z=c; } }

A. Base(a,b);

B. x=a, y=b;

C. this(a),this(b);

D. this(a,b);

AS: D

KW: Java, this

DL: 2

WT: It tests the deep understanding of “this”, which is difficult.

72. Read the following program first:

import javax.swing.JOptionPane;

public class Comparsion {

public static void main( String args[]) {

String firstNumber, secondNumber, result;

int number1 , number2;

firstNumber = JOptionPane.showInputDialog ( “Enter the first number: ”);

secondNumber = JOptionPane.showInputDialog ( “Enter the second number: ”);

number1 = Integer.parseInt ( firstNumber );

number2 = Integer.parseInt( secondNumber );

if (number1 == number2) result += number1 + “ == ” + number2;

if (number1 != number2) result += number1 + “ != ” + number2;

if (number1 < number2) result = result + “ \n ” + number1 + “ < ” + number2;

if (number1 > number2) result = result + “ \n ” + number1 + “ > ” + number2;

if (number1 <= number2) result = result + “ \n ” + number1 + “ <=” + number2;

if (number1 >= number2) result = result + “ \n ” + number1 + “ >= ” + number2;

JOptionPane.showMessageDialog (null,result, ”the result of compare”, JOptionPane.INFORMATION\_MESSAGE );

System.exit(0);

}

}

In order to make the program run successfully, the place which was underlined should be replaced with:

A. result = “”;

B. result = null;

C. result = number1;

D. result = number2;

AS: A

KW: Java, data type

DL: 3

WT: This program is testing the knowledge of data type. According to the question, the operation at the underlined place is to initialize the value of result. Also, the data type of result is string. In order to initialize it, a new string value should be defined as result. So, B is wrong, because null is not a value of string. Also, result is used to place the result of compare, the input of the program cannot be placed in it. However, “” is an empty value, which is also a string. So the correct answer is A.

73. What is the output of code “System.out.println("5" + 2);” :

A. 52

B. 7

C. 2

D. 5

AS: a

KW: Java, data type transformation

DL: 1

WT: In this code, 2 would be automatically transformed into string.

74. What is the output of the following program:

class HelloA {

public HelloA() {

System.out.println("HelloA");

}

{ System.out.println("I'm A class"); }

static { System.out.println("static A"); }

}

public class HelloB extends HelloA {

public HelloB() {

System.out.println("HelloB");

}

{ System.out.println("I'm B class"); }

static { System.out.println("static B"); }

public static void main(String[] args) {

　　　　 new HelloB();

　　 }

}

A. static A

static B

I'm A class

HelloA

I'm B class

HelloB

B. HelloA

I'm A class

static A

HelloB

I'm B class

static B

AS: A

KW: Java, static

DL: 2

WT: This question tests the knowledge of static sentence. First, the static sentence is executed. Then, main void is executed, then is the construction part.

75. The modification of the interface in Java can be:

A. private

B. protected

C. final

D. abstract

AS: CD

KW: Java, interface, private, protected, final, abstract

DL: 1

WT: It tests an idea that easy to got confused.

76. Does i and j exist where i > j || i <= j cannot stand

A. yes

B. no

AS: A

KW: Java, or, logic

DL: 1

WT: For example: Double.NaN or Float.NaN

77. Among the following graphs, which one shows the relationship between entities?

A. rectangle

B. oval

C. diamond

D. square

AS: C

KW: Java, graph

DL: 1

WT: In E-R graph, rectangle is used to represent the entity, oval represents the property and the diamond represents the relationship between entities. So, the correct answer is C.

78. Read the following program:

public class ExampleStringBuffer{

public static void (String args[]) {

StringBuffer s = new StringBuffer (“test”);

System.out.println(“buffer = ” + s);

System.out.println(“length = ” + s.length());

}

the value of program output after “length = ” is:

A. 10

B. 4

C. 20

D. 30

AS: D

KW: Java, data type, stringbuffer

DL: 2

WT: the void StringBuffer(String str) can define a string, with 16 bit space left for it. However, the void Length() can only get the length of the string, while 16 bit is not calculated.

79. Read the following program:

import java.io.\*

public class ExceptionCatch{

public static void main (String args[]){

try{

FileInputStream fis = new FileInputStream (“test);

System.out.println(“content of the text is :”);

}catch(FileNotFoundException e){

System.out.println(e);

System.out.println(“message: ” + e.getMessage());

e.printStackTrace(System.out);

} {

system.out.println(e);

}

}

}

In order to make the program run successfully, the underlined part should be :

A. catch(FileInputStream fis)

B. e.printStackTrace()

C. catch(IOException e)

D. System.out.println(e)

AS: C

KW: Java, exception, stream, IO

DL: 3

WT: Opening a file might cause two exception, one is that, the file does not exist, which would cause FileNotFoundException. Here in the program, IOException is catched. So, the sentence should be catch (IOException e).

80. Which of the following sentence is wrong:

A. all byte input stream inherit from InputStream

B. all byte output stream inherit from OutputStream

C. all string output stream inherit from OutputStreamWriter

D. all string input stream inherit from Reader

AS: C

KW: Java, inherit, input, output, stream

DL: 2

WT: It tests the deep understanding of tricky notions.

81: Which of the following is correct:

A. the concept of thread and progress is not related

B. a thread can contain multiple progress

C. a progress can contain multiple thread

D. there is no priority for thread in Java

AS: C

KW: Java, thread, progress, priority

DL: 2

WT: It tests the deep understanding of tricky notions.

82. Which of the following sentence is correct about java.lang.Exception:

A. inherit from Throwable

B. inherit from Serialable

AS: A

KW: Java, exception, Throwable, Serialable

DL: 1

WT: The basic object of Java exception is java.lang.Throwable.

83. Read the following program:

public abstract class MyClass {

public int constInt = 5;

//add code here

public void method() {

}

}

Which of the following code can replace the line “//add code here”:

A. public abstract void method(int a);

B. constInt = constInt + 5;

C. public int method();

D. public abstract void anotherMethod() {}

AS: A

KW: Java, abstract, method, void

DL: 2

WT: The abstract void in abstract class cannot be realized. The class which contains abstract void must be defined as abstract class.

84. Read the following program:

class People {

String name;

public People() {

System.out.print(1);

}

public People(String name) {

System.out.print(2);

this.name = name;

}

}

class Child extends People {

People father;

public Child(String name) {

System.out.print(3);

this.name = name;

father = new People(name + ":F");

}

public Child() {

System.out.print(4);

}

}

A. 312

B. 32

C. 432

D. 132

AS: D

KW: Java, inherit

DL: 3

WT: The subclass does not show call to the parent constructor, regardless of whether the subclass constructor takes arguments for the constructor that call the parent class without default. If the parent class is not compiled, the program would fail.

85. What’s Math.round (13.5)? What’s Math.round(-13.5)?

A. 14, -13

B. 14, -14

C. 13, -13

D. 13, -14

AS: A

KW: Java, round, float, double

DL: 1

WT: It tests the deep understanding of “round”. The situations between negative numbers and positive numbers are different, which is easy to get confused with.

86. Considering: “String s = new String(“abc”);” How many String Objects are created?

A. 1

B. 2

C. 3

D. 4

AS: B

KW: Java, String, object, heap, constant

DL: 3

WT: One is in the constant pool, which is created during the compiling. The other is in the heap, which is created during the runtime. Both of them are “abc”. It is because the usage of “new String”. It is different from “String s = “abc””

87. Can “switch” work on “byte”? Can “switch” work on “long”? Can “switch” work on “String”? (After JDK7)

A: Yes, Yes, Yes

B. Yes, No, Yes

C. No, No, Yes

D. No, No, No

AS: B

KW: Java, switch, byte, long, string

DL: 2

WT: It tests the detailed understanding on “switch”

88. What is the data type of 0.7758?

A. float

B. double

C. Float

D. Double

AS: B

KW: Java, data type, float, double

DL: 2

WT: The data type is double as default. However, if the data type is float, it should be specified as 0.7758f.

89. Which of the following algorithm is symmetric encryption algorithm:

A. DES

B. AES

C. DSA

D. RSA

AS: AB

KW: Java, algorithm, Symmetric encryption algorithm, DES, AES, DSA, RSA

DL: 3

WT: It tests the deep understanding of “symmetric encryption algorithm” as well as the characteristic of algorithms.

90. Which of the following exception must be claimed when programming:

A. NullPointerException

B. ClassCastException

C. FileNotFoundException

D. IndexOutOfBoundsException

AS: C

KW: Java, exception,

DL: 3

WT:The base class of Java exception is java.lang.Throwable, java.lang.Error and java.lang.Exception, which inherits Throwable.

91. Read the following program:

class Shape {

public String name;

}

class Circle extends Shape implements Serializable{

private float radius;

transient int color;

public static String type = "Circle";

}

Upon programming completed, which of the following string will be saved in the file:

A. name

B. radius

C. color

D. type

AS: B

KW: Java, transient

DL: 2

WT: In Java, the serialization of objects can be realized by two kinds of interfaces. If the Serializable interface is implemented, all the serialization will be automatically performed. If the implementation is externalizable interface, then nothing can automatically be serialized. it is need in writeexternal methods to manually specify the variables to be serialized, where transient modification has nothing to do with.

92. Is it possible to inherit a “String” class?

A. Yes

B. No

AS: B

KW: Java, String, inherit

DL: 1

WT: “String” is a “finally” class.

93. Can a “Constructor” be “override”? What about “overload”?

A. Yes, Yes

B. Yes, No

C. No, Yes

D. No, No

AS: C

KW: Java, Constructor, override, overload

DL: 2

WT: It tests tricky ideas about override and overload.

94. Choose all the following that is correct with HashMap and HashTable:

A. HashMap is synchronized, while HashTable is asychronized.

B. HashMap allows empty keys, while HashTable doesn’t

C. HashTable is more efficient than HashMap

D. Hashmap deletes the “contains” method in HashTable

AS: ABD

KW: Java, HashMap, HashTable

DL: 2

WT: It tests tricky ideas about HashMap and HashTable.

95. What’s the outcome of “(x++)/3” if x=2?

A. 0

B. 1

AS: A

KW: Java, calculation, priority

DL: 1

WT: First to calculate, second to copy.

96. How to get the length of a String s? An array s?

A. s,length(), s,length()

B. s,length(), s,length

C. s,length, s,length()

D. s,length, s,length

AS: B

KW: Java, length, array, String

DL: 1

WT: It tests the difference between two ways to get the length.

97. What’s the function of the following program snippet?

RandomAccessFile raf2 = new RandomAccessFile(“2.txt”, “rw”)

A. Open file “2.txt”. It can be written and read

B. Open file “2.txt”. It can be written, but cannot be read

C. Open file “2.txt”. It can be read, but cannot be written

D. All above are wrong

AS: A

KW: Java, read, write, file, RandomAccessFile

DL: 1

WT: It tests the tricky notion of RandomAccessFile.

98. What’s the difference between Runnable and Callable in Java?

A. Runnable is from JDK 1.5 while Callable is from JDK1.0

B. Callable’s call() method can return value and throw Exception

C. Runnable’s run() method can return value and throw Exception

D. Callable return Future object

AS: BD

KW: Java, Runnable, Callable

DL: 2

WT: Runnable and Callable is a pair of tricky notions. Both Runnable and Callable represent task which is intended to be executed in separate thread. Runnable is there from JDK 1.0, while Callable was added on JDK 1.5. Main difference between these two is that Callable’s call() method can return value and throw Exception, which was not possible with Runnable’s run() method. Callable return Future object, which can hold result of computation.

99. What is difference between Checked and Unchecked Exception in Java?

A. Checked Exception requires to be handled at compile time using try, catch and finally keywords

B. Unchecked Exceptions requires to be handled at compile time using try, catch and finally keywords

C. All exceptions derived from java.lang.Exception classes are checked exception

AS: AC

KW: Java, Checked Exception, Unchecked Exception

DL: 2

WT: Main difference between Checked and Unchecked Exception lies in there handling. Checked Exception requires to be handled at compile time using try, catch and finally keywords or else compiler will flag error. This is not a requirement for Unchecked Exceptions. Also all exceptions derived from java.lang.Exception classes are checked exception, exception those which extends RuntimeException, these are known as unchecked exception in Java.

100. What’s the correct form of JavaDoc?

A. /\*I love Java\*/

B. //I love Java\*/

C. /\*\*I love Java\*/

D. /\*I love Java\*\*/

AS: C

KW: Java, comment, JavaDoc

DL: 1

WT: It tests the tricky notion of JavaDoc. Some people may confuse it with comment.

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