**Question 1**

How many Objects are eligible for garbage collection when the control reaches do Stuff.

**public** **class** Test {

Integer story = **new** Integer(200);

Test go(Test cb) {

cb = **null**;

**return** cb;

}

**public** **static** **void** main(String[] args) {

Test c1 = **new** Test();

Test c2 = **new** Test();

Test c3 = c1.go(c2);

c1 = **null**;

// do Stuff

}

}

**Question 2**

What is the difference between Hashtable and Hashmap? Can/cannot a HashMap be synchronized? Explain?

**Question 3**

Explain the difference between the two statements in terms of memory allocation?

1. String s1 = new String(“abc”);

2. String s2 = “abc”;

**Question 4**

When do you get a concurrent modification exception when using an iterator?

**Question 5**

Explain finalize method?

**Question 6**

What is the difference between transient and volatile modifiers?

**Question 7**

Why do we need wrapper classes? Explain with an example.

**Question 8**

What is the difference between preemptive scheduling and time slicing?

**Question 9**

Assuming that the serializeBanana() and deserializeBanana() methods will correctly use Java serialization, what would be the output of the program?

**class** Food **implements** Serializable { **int** good = 3; }

**class** Fruit **extends** Food { **int** juice = 5; }

**public** **class** Banana **extends** Fruit {

**int** yellow = 4;

**public** **static** **void** main(String args[]) {

Banana b = **new** Banana();

Banana b2;

b.serializeBanana(b);

b2 = b.deserializeBanana();

System.*out*.println("restore " + b2.yellow + b2.juice + b2.good);

}

}

**Question 10**

Provide Output for the program

**public** **class** test **extends** Thread{

**public** **static** **void** main(String[] args) {

test t = **new** test();

Thread x = **new** Thread(t);

x.start();

}

**public** **void** run() {

**for** (**int** i = 0; i < 3; ++i) {

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

}

}

}

**Question 11**

Which method retrieves all cookies sent in HttpServletRequest request?

**Question 12**

What are implicit Objects in JSP? List them.

**Question 13**

What is the best case and worst case running time of heapsort when all the elements are distinct?

**Question 14**

Write a program/pseudocode to print a histogram of the lengths of words in its input with vertical orientation.

**Question 15**

Provide a pseudocode for efficiently finding loops in a single linked list.

**Question 16**

What method would you use to find the middle element in a linked list and why?

**Question 17**

Analyze the following data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| EMPLOYEE\_ID | EMP\_NAME | DEPT\_ID | MGR\_ID | JOB\_ID | SALARY |
| 101 | Smith | 20 | 120 | SA\_REP | 4000 |
| 102 | Martin | 10 | 105 | CLERK | 2500 |
| 103 | Chris | 20 | 120 | IT\_ADMIN | 4200 |
| 104 | John | 30 | 108 | HR\_CLERK | 2500 |
| 105 | Diana | 30 | 108 | HR\_MGR | 5000 |
| 106 | Bryan | 40 | 110 | AD\_ASST | 3000 |
| 108 | Jennifer | 30 | 110 | HR\_DIR | 6500 |
| 110 | Bob | 40 |  | EX\_DIR | 8000 |
| 120 | Ravi | 20 | 110 | SA\_DIR | 6500 |

Write a query to get the list of ID, Name and salary of the employee, and the ID and name of the employee’s manager, for all the employees who have a manager and earn more than 4000.

**Question 18**

What is the difference between SAX and DOM parser?

**Question 19**

Write an efficient program to split a comma separated string?

**Question 20**

Explain Serialization and deserialization?