**Question 1**

Explain java’s metadata support by providing examples.

**Question 2**

Explain the difference between List and Set interfaces in java.

**Question 3**

Explain Throwable, Error, Exception in java

**Question 4**

What are differences between Iterator and Enumerator with regard to iteration.

**Question 5**

Does java use Pass by Value or pass by reference? Explain your answer.

**Question 6**

Explain dynamic class loading in java.

**Question 7**

Complete the main method to output **“CAB”**

**public** **abstract** **class** A {

**public** String output = "A";

}

**public** **abstract** **class** B **extends** A {

**public** String output = "B";

}

**public** **class** C **extends** B {

**public** String output = "C";

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

// Code goes here

}

}

**Question 8**

What is the output of this program?

**public** **class** TestEight {

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

**int** blScore = 1;

**int** whScore = 1;

String color = "BLACK";

**int** i = (color == "BLACK") ? blScore++ : whScore++;

System.*out*.println("blScore:"+blScore++);

System.*out*.println("whScore:"+whScore++);

}

}

**Question 9**

What is the output of this program when you run **java TestNine 1 2**

**public** **class** TestNine {

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

**for** (**int** month = 0; month < args.length; month++) {

**switch** (month) {

**case** 1: System.*out*.print("January");

**case** 2: System.*out*.print("February");

**case** 3: System.*out*.print("March");

**case** 4: System.*out*.print("April");

**case** 5: System.*out*.print("May");

**case** 6: System.*out*.print("June");

**case** 7: System.*out*.print("July");

**case** 8: System.*out*.print("August");

**case** 9: System.*out*.print("September");

**case** 10: System.*out*.print("October");

**case** 11: System.*out*.print("November");

**case** 12: System.*out*.print("December");

}

}

}

}

**Question 10**

What are Daemon threads in java. How do you make a thread daemon?

**Question 11**

There is an Employee Class with attributes for firstName, lastName, age and salary. Write a program that sorts an ArrayList of employees either alphabetically by the lastName or numerically by the age.

**Question 12**

Explain Quick sort algorithm with an example.

**Question 13**

There is a HR department class that is concerned about an employee hire event, employee fire event and employee vacation event for an employee class. And it has to shoot an email to employee group each time these events occur. Employees should also have an opportunity to subscribe or unsubscribe from the email group.

Illustrate your design for solving this problem using UML or pseudo class structures.

**Question 14**

Given an Employee table

Emp id First Name Last Name Manger\_id

100 X Y null

110 A B 100

120 A B 110

130 E F 100

140 G H 120

1. Write a query to get the First Name and Last Name of an employee with Emp id = 130 and his/her manager’s First Name and Last Name.
2. Write a query to find all employees with duplicate names (both First Name and Family Name).

**Question 15**

Explain with pseudo code the second readers-writers problems.

**Question 16**

What are the different types of view tags in Struts?

**Question 17**

Explain the concept of request forwarding and redirection in J2EE.

**Question 18**

Give some of JSP implicit objects.

**Question 19**

How to handle any exceptions in JSP?

**Question 20**

What is the role of web.xml in J2EE?