Essential Interview Questions

In Eclipse, create one Java project for the homework with a separate package for each question, and use comments liberally in your code:

Q1. Perform a bubble sort on the following integer array: 1,0,5,6,3,2,3,7,9,8,4

Q2. Write a program to display the first 25 Fibonacci numbers beginning at 0.

Q3. Reverse a string without using a temporary variable. Do NOT use reverse() in the StringBuffer or the StringBuilder APIs.

Q4. Write a program to compute N factorial.

Q5. Write a substring method that accepts a string str and an integer idx and returns the substring contained between 0 and idx-1 inclusive. Do NOT use any of the existing substring methods in the String, StringBuilder, or StringBuffer APIs.

Q6. Write a program to determine if an integer is even without using the modulus operator (%)

Q7. Sort two employees based on their name, department, and age using the Comparator interface.

Q8. Write a program that stores the following strings in an ArrayList and saves all the palindromes in another ArrayList.

"karan", "madam", "tom", "civic", "radar", "sexes", "jimmy", "kayak", "john", "refer", "billy", "did"

Q9. Create an ArrayList which stores numbers from 1 to 100 and prints out all the prime numbers to the console.

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Q10. Find the minimum of two numbers using ternary operators.

Q11. Write a program that would access two float-variables from a class that exists in another package. Note, you will need to create two packages to demonstrate the solution.

Q12. Write a program to store numbers from 1 to 100 in an array. Print out all the even numbers from the array. Use the enhanced FOR loop for printing out the numbers.

Q13. Display the triangle on the console as follows using any type of loop. Do NOT use a simple group of print statements to accomplish this.

0

1 0

1 0 1

0 1 0 1

Q14. Write a program that demonstrates the switch case. Implement the following functionalities in the cases:

Case 1: Find the square root of a number using the Math class method.

Case 2: Display today's date.

Case 3: Split the following string and store it in a sting array.

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Q15. Write a program that defines an interface having the following methods: addition, subtraction, multiplication, and division. Create a class that implements this interface and provides appropriate functionality to carry out the required operations. Hard code two operands in a test class having a main method that calls the implementing class.

Q16. Write a program to display the number of characters for a string input. The string should be entered as a command line argument using (String [ ] args).

Q17. Write a program that calculates the simple interest on the principal, rate of interest and number of years provided by the user. Enter principal, rate and time through the console using the Scanner class.

Interest = Principal* Rate* Time

Q18. Write a program having a concrete subclass that inherits three abstract methods from a superclass. Provide the following three implementations in the subclass corresponding to the abstract methods in the superclass:

1. Check for uppercase characters in a string, and return 'true' or 'false' depending if any are found.
2. Convert all of the lower case characters to uppercase in the input string, and return the result.
3. Convert the input string to integer and add 10, output the result to the console.

Create an appropriate class having a main method to test the above setup.

Q19. Create an ArrayList and insert integers 1 through 10. Display the ArrayList. Add all the even numbers up and display the result. Add all the odd numbers up and display the result. Remove the prime numbers from the ArrayList and print out the remaining ArrayList.

Q20. Create a notepad file called Data.txt and enter the following:

Mickey:Mouse:35:Arizona
Hulk:Hogan:50:Virginia
Roger:Rabbit:22:California
Wonder:Woman:18:Montana

Write a program that would read from the file and print it out to the screen in the following format:

Name: Mickey Mouse
Age: 35 years
State: Arizona State