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June 2024 Java Hackathon

Instructions!!

1. Use Scanner function for all input for Programming Questions.

2. For theory questions please type your answers in a single MS Word or Doc File.

3. Write code on paper first using pen & then execute the code on Eclipse.

4. Scan/take photos of answers and paste in a single word/doc file with question no. and output.

5.Upload all your solutions in google drive read write folder and Tekarch portal

6. Submit the Google Drive link of your java Hackathon solution folder

Note: You can submit the answer every time when you want to take break (to don't lose your entered data) and re-open to resume your exam. And, if you won't save then you will lose your entered data.

Google form link:- https://forms.gle/J88LwgCjCPLvco17A

Questions

Q1. Consider there is a 3 Boolean variable called a, b, c. Check if at least two out of three Booleans are true

Q2. write a program to find factorial (Non Recursive)

Q3. Given an array of integers, sort the integer values.

Q4. Given an array of integers check the Palindrome of the series.

Q5. Given an array prints the unique numbers and also print the number of occurrences of duplicate numbers.

Q6. WJP to perform ascending order Selection sort

Q7. What are different ways to create String Object?

Q8. How can we make String upper case to lower case?

Q9. How can we make String Lower case to Upper case?

Q10. What is String subSequence method?

Q11. How to Split String in java?

Q12. Write a program to check palindrome (MalayalaM) for both numbers and string?

Q13. Given a string print the reverse of the string.(Input: Java Code Output: edoC avaJ)

Q14. Given a string print the reverse of the words string.(Input: Java Code Output: Code Java)

Q15. Given a string print the unique words of the string.

Q16. Write a method that will remove given character from the String?

Q17. WJP to find total number of integers, uppercase and lowercase character in the give string

Q18. WJP to display duplicate character in string

Q19. WJP to display number of occurrence of all character

Q20. WJP to find total number of repeated integers, uppercase and lowercase character in the give string

Q21. WJP to convert string to int

Q22. WJP to convert int to string

Q23. WJP to differentiate input as string, int or bool

Q24. Write a program which inputs a positive natural number N and prints the possible consecutive number combinations, which when added give N. INPUT: N = 9 OUTPUT: 4 + 5 2 + 3+ 4

Q25. Write a program for binary search. And 5 i/p has to take from user as binary elements.

Q26. WJP to merge two sorted array.(Do not use third array) array1[10] = 1,2,4,6,9,10 array2[4] = 3, 5,7,8 After merge : array1[10] = 1,2,3,4,5,6,7,8,9,10

Q27. WJP to perform ascending order Quick sort

Q28. WJP to find factorial of a number using recursion

Q29. WJP to perform Merge sort using recursion

Q30. Write a function to find out longest palindrome in a given string?

Q31. Read a file content and write it to a new file in reverse order.(reverse line 1-10 to line 10-1)

Q32. You are given two sorted arrays, A and B, and A has a large enough buffer at the end to hold B. Write a method to merge B into A in sorted order.

Q33. A circus is designing a tower routine consisting of people standing atop one another’s shoulders. For practical and aesthetic reasons, each person must be both shorter and lighter than the person below him or her. Given the heights and weights of each person in the circus, write a method to compute the largest possible number of people in such a tower. EXAMPLE: Input (ht, wt): (65, 100) (70, 150) (56, 90) (75, 190) (60, 95) (68, 110) Output: The longest tower is length 6 and includes from top to bottom: (56, 90) (60,95) (65,100) (68,110) (70,150) (75,190)

Q34. Write a method to implement \*, - , / operations. You should use only the + operator

Q35. What is JVM and explain me the Java memory allocation

Q36. What is Polymorphism and encapsulation?

Q37. What is method overloading and Method over riding?

Q38. Why string is Immutable?

Q39. What is the difference between String and String buffer?

Q40. What is the difference between array and array list?

Q41. What is the difference between hash map and Hash table?

Q42. What is a vector in Java?

Q43. What is set in java?

Q44. What is an abstract class?

Q45. What is an interface?

Q46. Why Java is Platform independent?

Q47. What are access modifiers? Give me an example?

Q48. What are java exceptions? Give me an example

Q49. What is the difference between throws and throwable?

Q50. What is the difference between Error and exception?

Q51. What is the difference between Error, throwable and exception?

Q52. What are collection APIs, give me an example

Q53. What is the difference between final and finally?

Q54. Will java supports multiple inheritance?

Q55. What are the different types of interface?

Q56. What are wrapper class? Give me an example

Q57. What is boxing and unboxing in Java? Explain with an example

Q58. Explain for each loop

Q59. What are iterators, explain with an example

Q 60. write an algorithm to reverse first 3 numbers, then next 3 numbers, then next 3 numbers, the number will be based on var k. Array = [3,2,4,7,0,3,1,5,8, 4] k=3 OutPut = [4,2,3,3,0,7,8,5,1,4]

Q 61. What is multithreading, serialization and Generics in Java

Test Plan

A test plan is a detailed document which describes software testing areas and activities. It outlines the test strategy, objectives, test schedule, required resources (human resources, software, and hardware), test estimation and test deliverables.

The test plan is a base of every software's testing. It is the most crucial activity which ensures availability of all the lists of planned activities in an appropriate sequence.

Types of test plan 3 phases

* Master Test Plan
* Phase Test Plan
* Testing Type Specific Test Plans

### **Master Test Plan**

Master Test Plan is a type of test plan that has multiple levels of testing. It includes a complete test strategy.

### **Phase Test Plan**

A phase test plan is a type of test plan that addresses any one phase of the testing strategy. For example, a list of tools, a list of test cases, etc.

### **Specific Test Plans**

Specific test plan designed for major types of testing like security testing, load testing, performance testing, etc. In other words, a specific test plan designed for non-functional testing.

## **How to write a Test Plan**

* First, analyze product structure and architecture.
* Now design the test strategy.
* Define all the test objectives.
* Define the testing area.
* Define all the useable resources.
* Schedule all activities in an appropriate manner.
* Determine all the Test Deliverables.

What is a burndown chart?

What is a burndown chart? A burndown chart shows the amount of work that has been completed in an epic or sprint, and the total work remaining. Burndown charts are used to predict your team's likelihood of completing their work in the time available.

 Manual Testing Questions

* 1.Difference between Smoke and Sanity testing?
* 2.How will you do Test case prioritization?
* 3.Define the Bug Life Cycle?
* 4.Difference between Version, Release, and Build?
* 5.Why does software have bugs?
* 6.What are the Severity and Priority?
* 7.What is the difference between bug and defect?
* 8.What are verification and validation?
* 9.With multiple testers how does one know which test cases are assigned to them?
* 10.What is Test Environment?
* 11.Explain are performance testing, load, stress, volume, and soak testing?
* 12.SDLC and STLC?
* 13.Why the developer can’t test the application?
* 14.Difference between Regression and Retesting?
* 15.What is the difference between a defect and an enhancement?
* 16.Difference between the testing environment and the Production environment?
* 17.When do you go for test automation?
* 18.A text box accepts values 21 and 100-200. Use test case design techniques and write the test data?

Agile

* 1.How many testcases for each user story? 5 testcase, few –ve testcase
* 2.Total how many test cases for each release? User storyx8, eg= 5x8
* 3.What is the duration of your sprint?    2-3 week
* 4.What is the difference between Priority and Severity?
* 5.How much is the manual testing code coverage?
* 6.What is points in Agile?
* 7.How many sprints in one release? 4 sprint
* 8.How will you decide the point? on what basis?
* 9.How much is the automation code coverage?

Java

* 1.What are iterators, explain with an example
* 2.what is the difference between overloading and overriding?
* 3.What is the difference between Error and exception?
* 4.What is polymorphism?
* 5.Why Java is Platform independent?
* 6.Write a Java program in testing framework
* 7.What is an abstract class?
* 8.What is a vector in Java?
* 9.What is static and Dynamic Polymorphism ?
* 10.What’s the difference between abstract class and interface?
* 11.What is multithreading in Java?
* 12.What is the difference between hash map and Hash table?
* 13.What are collection APIs, give me an example
* 14.Dead lock in Java ?
* 15.What is the difference between array and array list?
* 16.What is the difference between String and String buffer?
* 17.Explain for each loop
* 18.What are the different types of interface? (Ans List, set, Queue)
* 19.What is the difference between Error, throwable and exception?
* 20.What are wrapper class? Give me an example
* 21.Will java supports multiple inheritance?
* 22.What’s the difference between constructor and a method?
* 23.What is the difference between throws and throwable?
* 24.What is Polymorphism and encapsulation?
* 25.How do you access Private variables in different class ?
* 26.What is set in java?
* 27.What is a final keyword in java? how do you use it?
* 28.What are access modifiers? Give me an example?
* 29.What is the difference between final and finally?
* 30.What is boxing and unboxing in Java? Explain with an example
* 31.What is method overloading and Method over riding?
* 32.Why string is Immutable?
* 33.What is an interface?
* 34.How did you handle exceptions?
* 35.What are java exceptions? Give me an example
* 36.What is JVM and explain me the Java memory allocation
* 37.What is a constructor?