.Technical Interview Questions.

Links to extract

https://medium.com/acing-ai/salesforce-ai-interview-questions-acing-the-ai-interview-75e177c4734

https://medium.com/acing-ai/microsoft-ai-interview-questions-acing-the-ai-interview-be6972f 790ea

https://medium.com/acing-ai/apple-ai-interview-questions-acing-the-ai-interview-803a65b0e 795

https://medium.com/acing-ai/amazon-ai-interview-questions-acing-the-ai-interview-3ed4e67 1920f

https://medium.com/acing-ai/uber-ai-interview-questions-acing-the-ai-interview-9532794bc0 57

https://medium.com/acing-ai/steps-to-ace-the-ai-interview-part-1-298249080e59

https://medium.com/acing-ai/steps-to-ace-the-ai-interview-part-2-b25f91582f5f

https://medium.com/acing-ai/google-ai-interview-questions-acing-the-ai-interview-1791ad7d c3ae

https://medium.com/acing-ai/facebook-ai-interview-questions-acing-the-ai-interview-5982ad d0af55

https://www.analyticsvidhya.com/blog/2016/09/40-interview-questions-asked-at-startups-in-machine-learning-data-science/

https://www.analyticsvidhya.com/blog/2017/09/30-questions-test-k-nearest-neighbors-algorit hm/

https://www.analyticsvidhya.com/blog/2017/08/skilltest-logistic-regression/

https://www.listendata.com/2017/03/predictive-modeling-interview-questions.html

https://www.analyticsvidhya.com/blog/2017/07/30-questions-to-test-a-data-scientist-on-linear-regression/

https://www.analyticsvidhya.com/blog/2016/12/45-questions-to-test-a-data-scientist-on-regression-skill-test-regression-solution/

https://medium.com/acing-ai/adobe-ai-interview-questions-acing-the-ai-interview-ef7a80991 10b

https://www.listendata.com/2018/03/regression-analysis.html

https://www.analyticsvidhya.com/blog/2017/10/svm-skilltest/

https://vitalflux.com/decision-tree-algorithm-concepts-interview-question

https://www.analyticsvidhya.com/blog/2017/09/30-questions-test-tree-based-models/

https://www.analyticsvidhya.com/blog/2017/01/must-know-questions-deep-learning/

https://www.kdnuggets.com/tag/interview-questions

1.what is dynamic memory allocation?

https://www.geeksforgeeks.org/what-is-dynamic-memory-allocation/

2.what is thrashing in os?

https://www.techopedia.com/definition/4766/thrashing

3.what is paging demand paging?

https://www.guru99.com/paging-in-operating-system.html

4.what is coupling and cohesion?

https://www.javatpoint.com/software-engineering-coupling-and-cohesion

5.what are different datatypes in python?

Python Data Types

6.what are iterators in python?

https://www.programiz.com/python-programming/iterator#:~:text=Iterators%20in%20Python,-Iterators%20are%20everywhere&text=Iterator%20in%20Python%20is%20simply,collectively%20called%20the%20iterator%20protocol.

7.what are decorators in python?

Python Decorators: How to Use it and Why?

8.inheritance and it's type in python?

https://www.geeksforgeeks.org/types-of-inheritance-python/#:~:text=There%20are%20four%20types%20of,new%20features%20to%20existing%20code.&text=class%20Parent%3A.def%20func1(%20self%20)%3A

9.what is socket programming in python?

https://www.geeksforgeeks.org/socket-programming-python/

10.overloading v/s overriding?

Function Overloading And Overriding In C++ | OOPS In C++

11.what are higher order functions in python?

Higher Order Functions in Python

12.explain waterfall model?

https://www.tutorialspoint.com/sdlc/sdlc_waterfall_model.htm

13.what is associative memory?

https://www.geeksforgeeks.org/differences-between-associative-and-cache-memory/?ref=rp https://ecomputernotes.com/fundamental/input-output-and-memory/associative-memory

14.what are virtual functions?

https://www.javatpoint.com/cpp-virtual-function

15.why we use dbms instead of file system?

https://beginnersbook.com/2015/04/dbms-vs-file-system/#:~:text=Advantage%20of%20DBMS% 20over%20file%20system&text=No%20redundant%20data%3A%20Redundancy%20removed.s torage%20and%20improves%20access%20time.&text=Data%20Security%3A%20It%20is%20e asier,able%20to%20access%20the%20data.

16.what are data structures in python?

...List set tuple dictionary

17.what is normalization?

18.what are different normal forms?

DBMS - Normalization

19. Explain difference b/w various normal forms?

http://www.exploredatabase.com/2015/02/comparison-of-normal-forms.html

20. What is decomposition in dbms and it's type?

https://www.tutorialspoint.com/Lossless-and-Lossy-Decomposition-in-DBMS#:~:text=Decomposition%20in%20DBMS%20removes%20redundancy,The%20following%20are%20the%20types%20%E2%88%92

21.what are prime attributes?

https://www.guora.com/What-are-the-prime-and-non-prime-attributes-in-a-DBMS

22. What is primary/super/candidate/foreign key?

https://www.guru99.com/dbms-keys.html

23. What is level of abstractions?

https://www.guru99.com/dbms-schemas.html#:~:text=There%20are%20mainly%20three%20levels.level%3A%20Describes%20various%20user%20views

24. Which abstraction present on use end?

Above link

25.what is avl tree and why we use it?

https://www.tutorialspoint.com/data_structures_algorithms/avl_tree_algorithm.htm

26. Difference between tree and graph?

https://www.geeksforgeeks.org/difference-between-graph-and-tree/#:~:text=Graph%20is%20a%20non%2Dlinear,a%20non%2Dlinear%20data%20structure.&text=It%20is%20a%20collection%20of,collection%20of%20nodes%20and%20edges.

27. What are tree traversal algorithms?

<u>Tree Traversals (Inorder, Preorder and Postorder)</u>

28. What are anomalies in dbms?

Que 17-18 link

- 29. Tuple vs list in python?
- 30. What are lambda functions map filter?

https://stackabuse.com/lambda-functions-in-python/#:~:text=In%20Python%2C%20a%20lambda%20function.using%20the%20Python%27s%20def%20keyword.

31. Inheritance in java vs c++?

http://taylorliang.top/2019/06/20/inheritance-in-cpp-and-java/

32. Constructors and destructor ?

https://www.studytonight.com/cpp/constructors-and-destructors-in-cpp.php#:~:text=Constructors%20are%20special%20class%20functions.to%20destroy%20the%20class%20object.

33. Why we use __init__ ? Python constructor

34. Database system vs database management system?

https://www.geeksforgeeks.org/difference-between-database-and-dbms/

35. Pure virtual function and Abstract classes in c++?

https://www.geeksforgeeks.org/pure-virtual-functions-and-abstract-classes/

36. Protected vs private?

C++ Inheritance

https://www.geeksforgeeks.org/access-modifiers-in-c/

37. Friend functions?

https://www.tutorialspoint.com/cplusplus/cpp friend functions.htm

38. Virtual base class?

https://www.geeksforgeeks.org/virtual-base-class-in-c/

- 39. Normalization vs decomposition?
- 40. Explain stack and how you will implement it's operations? https://www.softwaretestinghelp.com/stack-in-cpp/#:~:text=All%20That%20You%20Need%20To.which%20the%20operations%20are%20performed.
- 41. What is public static void main keywords in java? https://stackoverflow.com/questions/2390063/what-does-public-static-void-mean-in-java
- 43. Why python is interpreted language difference b/w compiled v/s interpreted programming language ?

Python | Compiled or Interpreted ?

- 44. What are asymptotic notations? explain all 3? https://www.programiz.com/dsa/asymptotic-notations
- 45. Belady anomaly?
- 46. What is framentation?

https://www.includehelp.com/operating-systems/fragmentation.aspx#:~:text=In%20a%20computer%20storage%20system.is%20broken%20into%20small%20pieces.&text=Sometimes%20it%20happens%20that%20memory.problem%20is%20known%20as%20Fragmentation.

https://www.geeksforgeeks.org/difference-between-internal-and-external-fragmentation/

47. What is shell?

https://www.tutorialspoint.com/unix/unix-what-is-shell.htm

48. Task scheduling algorithms in os?

https://www.tutorialspoint.com/operating_system/os_process_scheduling_algorithms.htm

49. What is pep8 in python?

https://www.geeksforgeeks.org/pep-8-coding-style-guide-python/

50.integrity constraints?

https://binaryterms.com/integrity-constraints-in-dbms.html

51. Aggregration in dbms?

https://beginnersbook.com/2018/11/dbms-aggregration/#:~:text=Aggregation%20is%20a%20process%20in.entities%20acts%20as%20one%20entity.

52. Generalization in dbms?

Refer to q 79

53. Attribute and types of attribute in dbms?

Types of Attributes | DBMS

54. Er diagram and it's symbols?

Introduction of ER Model

ER Diagram: Entity Relationship Diagram Model | DBMS Example

55. Embedded sql?

https://data-flair.training/blogs/embedded-sql/

57. Aloha and type of aloha in computer networks?

58. Broadcast network?

https://www.geeksforgeeks.org/difference-between-unicast-broadcast-and-multicast-in-computer -network/

59. What is ip? difference between ipv4 v/s ipv6?

https://www.guru99.com/difference-ipv4-vs-ipv6.html

60. Mac address in dcn?

https://www.geeksforgeeks.org/introduction-of-mac-address-in-computer-network/

61. Transport layer multiplexing(dcn)?

https://www.geeksforgeeks.org/multiplexing-and-demultiplexing-in-transport-layer/

62. Types of operating system?

https://www.geeksforgeeks.org/types-of-operating-systems/

https://www.guru99.com/operating-system-tutorial.html

63. multithreading and multiprocessing ?Difference between Multiprogramming, multitasking, m

- 64. What is virtual memory?
- 65.what is scratch memory?
- 66. What is kernel in os?

https://www.guru99.com/operating-system-tutorial.html

67. What is bios?

https://www.google.com/search?q=what+is+bios&oq=what+is+bios+&aqs=chrome..69i57j0l6.64 68j0j4&sourceid=chrome&ie=UTF-8

68. Mutex vs Semaphore?

https://www.tutorialspoint.com/mutex-vs-semaphore#:~:text=A%20Mutex%20is%20different%20than,be%20used%20as%20a%20semaphore.

69. All about deadlocks?

https://www.guru99.com/deadlock-in-operating-system.html https://www.studytonight.com/operating-system/deadlocks

70. Relational algebra operators?

https://www.tutorialspoint.com/dbms/relational_algebra.htm#:~:text=Relational%20algebra%20is%20a%20procedural,yield%20relations%20as%20their%20output.

- 71. All type of keys in sql?
- 72. Ethernet ,gprs ,gsm,edma in dsn?
- 73. Token ring in dsn?
- 74. Topology in dsn?
- 75. Routers, hubs, switches and bridges?
- 76. Mutex in os?
- 77. What is weak entity?

https://www.tutorialspoint.com/Types-of-DBMS-Entities-and-their-examples

78. What is an attribute in dbms?

- 79. Specialization in dbms? What is specialization and generalization in DBMS?
- 81.abstract class?
- 82.monte carlo algo(ML)?
- 83. gaussian algo ML?
- 84.tcp and udp (dcn)?

85.membership and identity operators? In, not in | is, is not

87. What is segmentation in os?

https://www.javatpoint.com/os-segmentation#:~:text=In%200perating%20Systems%2C%20Segmentation%20is,table%20called%20as%20segment%20table.

88. Use of final keyword c++?

https://www.geeksforgeeks.org/c-final-specifier/

89. Java, jvm platform dependent?

https://www.geeksforgeeks.org/java-platform-independent/#:~:text=Every%20system%20has%20its%20own,the%20jdk%20software%20is%20installed.&text=An%20important%20point%20to%20be,to%20run%20on%20different%20OS.

90.acid properties in dbms?

https://www.gatevidyalay.com/acid-properties/#:~:text=ACID%20Properties%20%7C%2 0ACID%20Properties%20in%20DBMS%201,simultaneously%20without%20causing%20a ny%20inconsistency.%20More%20items...%20

91.static vs dynamic binding?

https://www.techiedelight.com/difference-between-static-dynamic-binding-cpp/#:~:text = Dynamic%20binding%20happens%20when%20all,achieved%20using%20the%20virtual%20functions.

92. Composition in dbms?

https://javapapers.com/oops/association-aggregation-composition-abstraction-general ization-realization-dependency/#:~:text=Composition%20is%20a%20special%20case,then%20it%20is%20called%20composition.

https://www.javatpoint.com/java-oops-concepts#:~:text=Any%20entity%20that%20has %20state%20and%20behavior%20is,the%20details%20of%20each%20other%27s%20dat a%20or%20code.

93. Self and pass in python?

https://www.geeksforgeeks.org/self-in-python-class/ https://www.w3schools.com/python/ref_keyword_pass.asp

94.what is namespace std in cpp?

https://www.tutorialspoint.com/What-does-using-namespace-std-mean-in-Cplusplus https://docs.microsoft.com/en-us/cpp/cpp/namespaces-cpp?view=vs-2019#:~:text=A %20namespace%20is%20a%20declarative,code%20base%20includes%20multiple%20li braries.

95. Relationship in dbms?

https://afteracademy.com/blog/what-are-the-different-types-of-relationships-in-dbms

96.exception handling in c++?

https://www.geeksforgeeks.org/exception-handling-c/

97. Write query to find second highest salary?

SELECT MAX From WHERE SELECT Max FROM

https://www.guru99.com/waterfall-vs-agile.html

https://www.trustradius.com/buyer-blog/difference-between-agile-vs-waterfall#:~:text=The%20two%20main%20development%20methodologies,completed%20iteratively%20in%20a%20cycle.

99.volatile keyword in c++?

Why do we use volatile keyword? [duplicate]

100.what is storage class?

https://www.tutorialspoint.com/cplusplus/cpp_storage_classes.htm Storage Classes in C: auto, extern, static, register with Example

101. Mutable in cpp?

The mutable storage class in C++

103. Python shallow vs deep copy?

https://www.geeksforgeeks.org/copy-python-deep-copy-shallow-copy/

105. Scope resolution operator in cpp?

https://www.geeksforgeeks.org/scope-resolution-operator-in-c/

106.command line arguments?

https://www.geeksforgeeks.org/command-line-arguments-in-c-cpp/

107. Container class in cpp?

https://www.learncpp.com/cpp-tutorial/106-container-classes/

108. Enum in cpp?

https://www.tutorialspoint.com/how-to-use-enums-in-cplusplus#:~:text=Enumeration%20is%20a%20user%20defined,easy%20to%20read%20and%20maintain.&text=enum%20colors%7Bred%2C%20black%7D%3B,is%20an%20example%20of%20enums.

109. Typedef and define?

https://www.geeksforgeeks.org/typedef-versus-define-c/

110. Datqatypes in cpp?

https://www.geeksforgeeks.org/c-data-types/

111. Greedy, divide and conquer and dynamic programming?

https://www.geeksforgeeks.org/greedy-algorithms/#:~:text=Greedy%20is%20an%20algorithmic%20paradigm.are%20best%20fit%20for%20Greedy.

https://www.tutorialspoint.com/data structures algorithms/divide and conquer.htm

https://www.tutorialspoint.com/data_structures_algorithms/dynamic_programming.htm#:~:text=Dynamic%20programming%20is%20used%20where.the%20previously%20solved%20sub%2Dproblems.

112. Malloc vs calloc?

https://www.geeksforgeeks.org/difference-between-malloc-and-calloc-with-examples/

113. How to rename a column in sql?

ALTER TABLE TableName

RENAME COLUMN OldColumnName TO NewColumnName;

114.what is pl/sql?

https://www.javatpoint.com/pl-sql-tutorial

115. Mangodv vs mysql?

https://www.geeksforgeeks.org/mongodb-vs-mysql/

116.cloud computing ques?

https://www.javatpoint.com/cloud-computing-interview-questions

117. Cloud computing architecture?

https://www.javatpoint.com/cloud-computing-architecture

118. Virtualization in cloud computing?

https://www.javatpoint.com/virtualization-in-cloud-computinghttps://www.javatpoint.com/virtualization-in-cloud-computing

https://www.geeksforgeeks.org/virtualization-cloud-computing-types/

119. Load balancing?

https://www.geeksforgeeks.org/load-balancing-in-cloud-computing/

120. Saas iaas pass?

https://www.bmc.com/blogs/saas-vs-paas-vs-iaas-whats-the-difference-and-how-to-choose/

121. Mean median mode variance in ml?

https://en.wikipedia.org/wiki/Median absolute deviation

Mean, Mode, Median, and Standard Deviation

- 1. Introduce yourself
- 2. Which programming language do you prefer ? (My Ans : c++)

- 3. why you prefer c++?
- 4. why not Java and Python?
- 5. difference between c and c++
- 6. oops features
- 8. What change will occur if smae functions are written in C language?
- 10 . Expalin how a c++ program gets executed in memory ! (Hint all steps from a.cpp to a.out)

https://www.geeksforgeeks.org/how-does-a-c-program-executes/#:~:text=Linker%20generates%20the%20executable%20module,by%20a%20linker%20as%20input.https://www.includehelp.com/articles/execution-process-of-a-c-program.aspx

- 11. what is a.out
- 12. is c++ platform dependent (i dont remember exact but they basically want to ask this only)
- 13. Compiler vs interpreter
- 17. Project explanation
- 18. Internship experience
- 19. if same task can be done is c++ and python what will you choose?
- 20. what is Data science

MR

- 1. consider you are on leave and some imp work is there in office what will you do
- 2. consider you are working in night shift and u uploaded wrong code and u have only communication allowed with client what will u do?
- 3. Consider you have the rights to remove that wrong code then what will you do?

HR

- 1. What are positive of lockdown acc to you
- 2. what is most negative thing u feel about yourself
- 3. strength and weaknes
- 4. why should we hire you
- 5. agreement of tcs
- 6. discussion on bond

Tcs interview questions :--

Q. how to come out of infinite loop in python?

Ans. crtl+c

Q. Copy constructor shallow copy vs deep copy?

https://www.geeksforgeeks.org/copy-constructor-in-cpp/

Q. dbms vs rdbms?

Ans.

https://www.geeksforgeeks.org/difference-between-rdbms-and-dbms/#:~:text=Database%20Management%20System%20(DBMS)%20is,advanced%20version%20of%20a%20DBMS.&text=DBMS%20stores%20data%20as%20file,stores%20data%20in%20tabular%20form.

Q.is python dynamically typed?

Ans. https://www.geeksforgeeks.org/why-python-is-called-dynamically-typed/

Q. how to import functions of python file into another file?

Ans. https://www.geeksforgeeks.org/python-call-function-from-another-file/

Q. *args vs **kwargs ?

Ans.

Q. __doc__ in python/ docstring?

Ans. https://www.geeksforgeeks.org/python-docstrings/

Q. can you print without using; in c/cpp?

Ans. if(printf("hello world")){}

Q. Explain Languages of dbms

Ans. https://beginnersbook.com/2015/04/dbms-languages/

Q.Write queries to declare the primary key and foreign key for some table?

Ans. https://www.w3schools.com/sql/sql_foreignkev.asp

Q.Write a query to get the 3rd largest salary from a table

Ans.

https://stackoverflow.com/questions/20690629/sql-query-to-find-third-highest-salary-in-company/20690671

Q.having vs groupby?

Ans. "When GROUP BY is not used, HAVING behaves like a WHERE clause." The difference between where and having: WHERE filters ROWS while HAVING filters groups.

Q. explain gradient descent?

Ans.<u>https://towardsdatascience.com/understanding-the-mathematics-behind-gradient-descent-de5dc9be06e</u>

https://www.kdnuggets.com/2017/04/simple-understand-gradient-descent-algorithm.html

Q. precision and recall?

Ans. https://towardsdatascience.com/beyond-accuracy-precision-and-recall-3da06bea9f6c

Q.ai vs ml?

Ans.

https://www.javatpoint.com/difference-between-artificial-intelligence-and-machine-learning#: ~:text=On%20a%20broad%20level%2C%20we,data%20without%20being%20programmed %20explicitly.

Q.explain max heap

Pdf:

https://drive.google.com/file/d/1RP-bhkcHUdfZV7CKjXoP7m1tZ7GBuz0W/view?usp=sharing

Q. reverse vowels in given string?

Ans. https://www.geeksforgeeks.org/reverse-vowels-given-string/

Q. difference between union and union all?

Ans. https://dataschool.com/learn-sql/what-is-the-difference-between-union-and-union-all/

Q. abstract class vs interface in cpp?

Ans. https://stackoverflow.com/questions/12854778/abstract-class-vs-interface-in-c

Q. what is string striding in python?

Ans.

https://scipython.com/book/chapter-2-the-core-python-language-i/examples/string-striding/

Q. quick sort vs merge sort ?
Ans. Quick Sort vs Merge Sort

Q. method overloading in python?

Ans.Python | Method Overloading

Q. how would you use python lib in c or cpp? Ans.how do i use python libraries in C++?

Q.difference between process and thread?

Ans.https://pediaa.com/difference-between-process-and-thread/#:~:text=Difference Between Process and Thread 1 Definition. A,interacting with the operating system. More items...

Q.different sorting techniques and their time complexities?

Ans. Sorting And Searching Algorithms - Time Complexities Cheat Sheet - Vipin Khushu

Q. There are 8 balls, from 7 are the same weight, 1 is heavier, you need to find the heavier ball with fewer chances.

Ans. There are eight balls. Seven of them weigh the same but one of them has a different weight (heavier or lighter). How do you find the odd ball with two weighs?

- Q. Suppose there are 10 tuples in the database. Write a SQL query to you to retrieve the tuples in reverse order?
- Q. 104. Static member function ?8.12 Static member functions
- Q. polymorphism and Runtime v/s compile time polymorphism? <a href="https://www.tutorialspoint.com/cplusplus/cpp_polymorphism.htm#:~:text=C%2B%2B%20polymorphism%20means%20that%20a,object%20that%20invokes%20the%20function.&text=You%20have%20different%20classes%20with,parameters%2C%20but%20with%20different%20implementations."

Polymorphism in C++

Q. Procedural vs oop programming?

Differences between Procedural and Object Oriented Programming

Q.What is deterministic and non-deterministic loop?

Ans. A **deterministic loop** is predictable. The number of iterations of such a **loop** are known in advance, even before the **loop** has started. ... A **non-deterministic loop** is not easily predicted. A **loop** that is driven by the response of a user is not **deterministic**, because we cannot predict the response of the user.

Q. applications of dsa?

Ans. https://stackoverflow.com/questions/54466641/examples-of-data-structures-in-real-life

Q...Is is possible to have recursive in line function Ans.

https://stackoverflow.com/questions/190232/can-a-recursive-function-be-inline#:~:text=T he%20compiler%20can%20(and%20often,can%20unroll%20an%20infinite%20loop.&te xt=In%20this%20case%2C%20we%27ve,inlined%20the%20function%203%20times.

Q.How is modularity introduced in C++?

Ans. How is modularity introduced in c++?

Q. syntax of joins in sql?

Ans. SQL Joins

Q.https://www.geeksforgeeks.org/sql-ddl-dql-dml-dcl-tcl-commands/?ref=rp

Q.Triggers in sql?

https://www.tutorialspoint.com/plsql/plsql_triggers.htm

Q.views vs materialized views?

https://www.tutorialspoint.com/difference-between-views-and-materialized-views-in-sql#: ~:text=Views%20are%20generally%20used%20when.get%20updated%20on%20frequent%20basis.

Q.indexing on views?

How do indexes work on views?

Q. function vs procedure?

https://www.tutorialspoint.com/difference-between-function-and-procedure

Q.keyword vs identifier?

Ans. Keywords are predefined words that get reserved for working progs that have special meaning and cannot get used anywhere else. Identifiers are the values used to define different programming items such as variables, integers, structures, unions and others and mostly have an alphabetic character.

Q.ifdef in c/cpp?
Ans. <u>C #ifdef</u>

Q.type casting vs type conversion?

Ans. <u>Difference between Type Casting and Type Conversion</u>

Q.shorthands in cpp?

Ans. Role and importance of C++ shorthands.

Q.