**Test on 20-12-2024**

1. **What is devops ?**
2. **Why devops?**
3. **What is need of devOps?**
4. **What are the devOps tools?**
5. **Difference b/w break continue and pass ?**
6. **d/w remove , delete, pop and write an example program in python to demonstrate 3 of them.?**
7. **D/w append and extend..?**
8. **Write a python program to print the element in the array with negative elements (ex : print the element which is present in -2 positions) ..?**
9. **Explain about lamda function?­­­**

**10.What is cloud ..? explain top 10 cloud providers ..?**

**11. what is cloud computing and explain types ..?**

**12. what are the different levels of cloud storages ..?**

**13. explain the architecture of service model with real time examples?**

**14. explain deployment model?**

**15.**

**16. Write a python program to print your name , designation, technology 100 times ?**

**17. d/w agile and waterfall models..?**

**18. explain about arithmetic an relational operators with example..?**

**19. compares b/w set, list, tuple and dictionary ?**

**20. Explain the phases involved in software development life cycle..?**

**21. what is database ..? what is dbms and explain types of dbms ..?**

**22. what are ddl and dml commands mention example of each one ..?**

**23. what are clauses and explain with example..?**

**24. explain the concept of joins with examples..?**

**25. create a trigger and explain..?**

**Answers**

1. **What is devops ?**

Devops is combination of development and operation is call devops.

Devops is process of delivering the product/project by ensuring automatic in place ensuring the quality with continuous monitoring, continuous testing, continuous release.

1. **Why devops?**

* Devops is deliver the software or project or product on time.
* Devops has ci/cd
* Devops has culture of collaboration between development and operation team
* We achieve the our goal fast and reliably
* To understand devops culture try to understand previous.

1. **What is need of devOps?**
   * Devops is deliver the software or project or product on time.
   * Devops has ci/cd
   * Devops has culture of collaboration between development and operation team
   * We achieve the our goal fast and reliably
   * To understand devops culture try to understand previous.
2. **What are the devOps tools?**

1.Planning/coding/scm:git,jira

2.building code:Maven,gradle,apache

3.Testing:seleniumtesting with python.

4.Integration:Jenkins(ci/cd)

5.deployment:Dockers,Kubernates

6.Operation: Ansible

7.Monitoring:teraform.

1. **Difference b/w break continue and pass ?**

Break: it use to break statement when we have multiple statement then any one of condition is true.then it will pull out the result.

Continue:it is skip current condition and it will continue next iteration.

Pass: it use just pass execution and start executing the statement after the pass stament.

1. **d/w remove , delete, pop and write an example program in python to demonstrate 3 of them.?**

Remove : it use of remove the specific element and remove the first occurrence of element. Then element are notmention then it will raise error values.

Delete: it use to delete specific element in list and delete all element in list.

Delete is denoted by del.

Pop:it use to pop() it will return last element and specific element.

Remove ex:

list1=[1,2,3,4,5]  
list1.remove(2)  
print(list1)

output: [1, 3, 4, 5]

delete ex:

list1=[1,2,3,4,5]  
del list1[2]  
print(list1)

output: [1, 2, 4, 5]

pop() ex: list1=[1,2,3,4,5]  
list1.pop()  
print(list1)

output:

[1, 2, 3, 4]

1. **D/w append and extend..?**

Append(): it is used append the element into existsted list and specific position to add element.

Extend(): it is use to extend list through the another list by using list.

It combine the two list.

Append():

list1=[1,2,3,4,5]  
# list2=[3,44,5,6]  
list1.append(2)  
print(list1)

output: [1, 2, 3, 4, 5, 2]

Exstend() ex:

list1=[1,2,3,4,5]  
# list2=[3,44,5,6]  
list1.append(2)  
print(list1)

output: [1, 2, 3, 4, 5, 3, 44, 5, 6]

1. **Write a python program to print the element in the array with negative elements (ex : print the element which is present in -2 positions) ..?**

list1=[1,2,3,4,5]  
print(list1[-2])

output:4

1. **Explain about lamda function?**

A lambda function is a small anonymous function.

Do not defined by def keyword.

Return expression but not values.

One-line function.

Any number of argument.

Can not access global variable.

Defined by using “lambda” keyword.

Function does not have any name.

**10.What is cloud ..? explain top 10 cloud providers ..?**

Cloud: cloud is a process of access server over the internet include like databases, networking.

Top10 cloud:

1.AWS

2.microsoft Azure

3.google cloud platform

4.oracle cloud

5.Ibm cloud

6.alibaba cloud

7.Salesforce

8.tencent cloud

9.digital Ocean

10.Vmware cloud

**11. what is cloud computing and explain types ..?**

Cloud computing: cloud is access server over the internet including like databases, networking.

It will maintain the physical infrastructure like data centers.

Types of cloud service:

1.Iaas(infrastructure as a service): It provides Virtualized computing resources like servers, storage and networking.

2.Paas(platform as a service): A platform for developers to build, test, and deploy applications without managing infrastructure.

3.Saas(Software as a service): Fully functional software applications delivered over the internet.

4.Faas(Function as a service): Allows you to execute code in response to events without managing servers.

12. **what are the different levels of cloud storages ..?**

Cloud storages is technology it allows the data from user to store data and another way is through the internet in system localstorage .

There are different types

1.Object storage: object storage is manage the data in units is called object.

Which is include data store itself and unique Identifier the system is highly store like images,videos.

Ex: Amazone s3,Google cloud storage.

2.File Storage: it is organization to store the data in files like text,images etc.

Ex: Network Attached storage(NAS) solutions.

3.Block storages: it means divided date into fixed sized blocks each with unique identifier.

ExEBR Amazon Elastic block store,google persistent.

13. **explain the architecture of service model with real time examples?**

1.Iaas(infrastructure as a service): It provides Virtualized computing resources like servers, storage and networking.

Ex:Aws Ec2,GCE-Google compute Engine

2.Paas(platform as a service): A platform for developers to build, test, and deploy applications without managing infrastructure.

Ex: Heroku, Google App Engine, AWS Elastic Benstalk­­

3.Saas(Software as a service): Fully functional software applications delivered over the internet.

Ex: Google Workspace, Salesforce, Microft office 365.

4.Faas(Function as a service): Allows you to execute code in response to events without managing servers.

**14. explain deployment model?**

Deployment models: there are different types

**1.Private cloud:** Private cloud is provides for only one organization like company, banks,

For examples who are register the specific organization that members only eligible for registers

* It will provide security and privacy for application.
* The organization need to high controlled.
* It will predictable workloads .

EX. VMware, Microsoft Azure Stack, I BM Cloud Private.

**2.Public cloud:** public cloud accesses the multiple organizations and multiple users.

* Applications are unpredictable workloads.
* It are speed development, testing, and scaling.

EX:Amazon Web Services , Google Cloud Platform , Microsoft Azure

**3.Hybrid cloud:** Hybrid cloud is combines both private cloud and public cloud are called Hybrid cloud.

* It allows data and application share between them.

EX:OCI, IBM cloud, AWS outposts.

**4.Community cloud:**

A **community cloud** is a type of cloud computing where a group of organizations with similar needs share the same infrastructure. These organizations work together to build and maintain a cloud environment that meets their shared goals, such as security, compliance.

Ex: Healthcare, Education, Financial Sector.

**15.mention few differences b/w AWS , MICROSOFT AZURE , AND GCP?**

**AWS(Amazon wed services):**AWS started in year 2006.

Aws is friendly with the open source model from the beginning.

**Microsoft Azure:**Azure started service in year 2010.

Azure has not so good relationship with the source community.

**Gcp(Googole cloud platform):** Launched in year 2008.

GCP offer managed open source service operated that are tightly integrated into google cloud

16.**Write a python program to print your name , designation, technology 100 times ?**

n=int(input("enter values"))  
for i in range(n):  
 print("sofware develope")

print(“Harikrishna”)

output: enter values100

sofware develop

Harikrishna

sofware develop

Harikrishna

sofware develop

HariKrishna

sofware develop

Harikrishna

sofware develope

17. **d/w agile and waterfall models..?**

**Water fall:** it has step by step process.

* The customer need to change in product we cannot change in water fall
* The test will happens after completed product build.
* In water fall teams do separately like first develop the code then tester do the testing
* It is old methodology.
* In water fall customer will see product at the end.
* It has fixed structure

**Agile :**

* it has small cycle with continuously update and improvement
* in agile has adapted nature client any change we do in any time.
* Testing is happen throughout project .
* In agile teams are work combine to work.
* It has flexibility and rapid.

1. **explain about arithmetic an relational operators with example..?**

**relational operators:**

These operators Relational two values and return a boolean result (True or False).

* == (Equal to): Returns True if the values of two operands are equal.
* != (Not equal to): Returns True if the values of two operands are not equal.
* > (Greater than): Returns True if the first operand is greater than the second.
* < (Less than): Returns True if the first operand is less than the second.
* >= (Greater than or equal to): Returns True if the first operand is greater than or equal to the second.
* <= (Less than or equal to): Returns True if the first operand is less than or equal to the second.
* # 1. Equal to (==)
* a = 5
* b = 5
* result = a == b
* print(result) # Output: True
* # 2. Not equal to (!=)
* a = 5
* b = 3
* result = a != b
* print(result) # Output: True
* # 3. Greater than (>)
* a = 5
* b = 3
* result = a > b
* print(result) # Output: True
* # 4. Less than (<)
* a = 5
* b = 7
* result = a < b
* print(result) # Output: True
* # 5. Greater than or equal to (>=)
* a = 5
* b = 5
* result = a >= b
* print(result) # Output: True
* # 6. Less than or equal to (<=)
* a = 5
* b = 7
* result = a <= b
* print(result)

**Arithmetic Operators:**

These operators perform basic mathematical operations like addition, subtraction, multiplication, etc.

* + (Addition): Adds two operands.
* - (Subtraction): Subtracts the second operand from the first.
* \* (Multiplication): Multiplies two operands.
* / (Division): Divides the first operand by the second.
* // (Floor Division): Divides and returns the largest integer smaller than or equal to the result.
* % (Modulus): Returns the remainder when the first operand is divided by the second.
* \*\* (Exponentiation): Raises the first operand to the power of the second.
* # 1. Addition (+)  
  a = 5  
  b = 3  
  result = a + b  
  print(result) # Output: 8  
    
  # 2. Subtraction (-)  
  a = 5  
  b = 3  
  # result = a - b  
  print(result) # 5-3 Output: 2  
    
  # 3, Multiplication (\*)  
  a = 5  
  b = 3  
  # result = a \* b  
  print(result) # Output: 15  
    
  # 4. Division (/)  
  a = 5  
  b = 2  
  result = a / b  
  print(result) # Output: 2.5  
    
  # 5. Floor Division (//)  
  a = 5  
  b = 2  
  result = a // b  
  print(result) # Output: 2  
    
  # 6. Modulus (%)  
  a = 5  
  b = 2  
  result = a % b  
  print(result) # Output: 1

# 7. Exponentiation (\*\*)  
a = 2  
b = 3  
# result = a \*\* b  
print(result) # Output: 8

1. **compares b/w set, list, tuple and dictionary ?**

**set:** In python is set of unordered collection of Unique items no duplicates are allowed in set .

* The set has itself is mutable. We can add or remove items from
* Set can be used to perform mathematical set operation like union, Intersection, symmetric difference etc.

**List:** To store ordered collection of value of any type.

* It is mutable.
* In list we can store different types of values like strings, integers, float values.

**Tuple:** To store ordered collection of values of any types.

* + It is immutable.
  + Once tuple is create we can`t change the values and it has fixed size.
  + It is define by ().

**Dict:** Dictionary is data type data can store in the form of key value pair.

* Dictionary items are ordered, changeable, and do not allow duplicates.
* Key should be immutable.
* Value should be mutable it has duplicate values and different type of data.
* Key will act as index .
* No slicing because of it has no index.
* Key are unique.

1. **Explain the phases involved in software development life cycle..?**

**Software Development Life Cycle (SDLC):**

Software development typically follows a lifecycle known as the

**1.plainning**

Define the purpose and scope of the software.

Frist gather requiremnts from task.

**2.** **Analysis**:

Break down requirements and analyze feasibility.

**3.Design**:

Plan the architecture and design the user interface.

**4.** **Development**:

Write the code to create the application.

Use programming languages like Python, Java, JavaScript, or C++.

**5.** **Testing**:

Verify the code errors

**6. Deployment:**

Release the software to users.

May involve hosting on servers, app stores, or internal distribution.

**7.** **Maintenance**:

Fix bugs and update the software to add features or improve performance.

1. **what is database ..? what is dbms and explain types of dbms ..?**

**Database:** It is an application which stores the collection of data in the form of files.

There different types of databases

1.DBMS:Database management system .

It store the data in the form of tables

2.RDMS: Relation Database management system

* It we can store the data in the form of tables and can also map them from locations.
* It will retrieve the data very fastly .
* Operation will be very effective

There are two types:

1.RDBMS

2.Non-RDBMS: it store the data in the from of key-values.

1. **what are ddl and dml commands mention example of each one ..?**

**DDL commend:**

1. Create: to create a particular database table.

2. Alter: means update, delete,add column names is called alter.

3. Drop: delete records from table and table structure.

4. Truncate: remove the table records from table at time.

5. Rename: we are rename table or records in the existing database.

**DML commend:**

1. insert : insert data into a table.

2. update : update the existing data within a table.

3. delete : delete the records from table and row by row deleted.

create table krishna(sno int(4) primary key auto\_increment,

name varchar(20),

address varchar(20) not null);

insert into krishna values(101,'hari','Ongole');

insert into krishna values(102,'krishna','hyderabad'),(103,'mohan','Ongole');

alter table user rename column sno to USER\_ID;

update krishna set sno=102 where sno=101;

delete from Krishna where sno=101;

truncate table Krishna;

drop table Krishna;

**23. what are clauses and explain with example..?**

1. **Where clause:** it is manly use for filtering purpose.

**Syntax:** select col name from table name where condition.

**Ex:** **SELECT name FROM students WHERE age > 18;**

1. **AND,OR,NOT:**

**AND-** if we wanted to display a records if all the condition are satisfied by and operator.

**Syntax:** select col name col2 name from table name where cod1 and cod2 and cod3.

**Ex:** **SELECT name, age FROM students WHERE age > 18 AND grade = 'A';**

**OR**- it any one condition is satisfied then the result will be true.

SELECT name FROM students WHERE grade = 'A' OR grade = 'B';

**NOT**- displays the record when condition fails.

**Syntax:** select col1,col2 from table name where not condition.

Ex:SELECT name FROM students WHERE NOT grade = 'F';

1. **Order by:** it will sorting the records to ascending or descending order only.

By default ascending order only.

**Syntax:** select col name from table name order by col1,col2.

**Ex;** **SELECT name FROM students ORDER BY age ASC, grade DESC;**

1. **Insert into:** it is use for inserting the new record in to already existing table.

**Syntax:** insert into table name(col1,col2,col3) values(n1,n2,n3).

Ex: insert into krishna values(102,'krishna','hyderabad'),(103,'mohan','Ongole');

1. **Select clause:** It is use to display to obtain data from particular table.

**Syntax:** select \* from table name.

**Select \* from Krishna;**

1. **Update:** modify and change the existing values.

**Syntax:** Update table name set col1=val1 col2=val2 where condition.

**Ex:** update krishna set sno=102 where sno=101;

1. **Delete:** Deletes the existing record from the table.

**Syntax:** delete from table name where condition.

**Ex:** delete from Krishna where sno=101;

1. **Limit:** Used to specify the number of records to return.

**Syntax:** select col1 from table name where condition limit number.

**Ex:** **SELECT name FROM students LIMIT 5;**

1. **Min:** it returns the minimum values of the selected col of a table.

**Syntax:** select min (col name) from table name where condition.

Ex: SELECT MIN(age) FROM students WHERE grade = 'A';

1. **Max:** It returns the maximum values of the selected col of a table.

**Syntax:** Select Max (col name) from table name where condition.

**Ex:** **SELECT max(age) FROM students WHERE grade = 'A';**

1. **Like:** it is use in where clause it is use to search for specific pattern in a column.

Syntax: select col1, col2, from table name where col1, like pattern.

%a--- finds names ending with ‘a’;

a%---- finds names starting with ‘a’.

-a%--- it finds names whose second letter is a.

a\_%---finds names whose second letters is a.

EX: SELECT name FROM students WHERE name LIKE 'a%';

1. **In:** allow us to specify multiple values in where clause.

**Syntax:** select col name from table name where col name in (val1, val2);

**Ex:** select \* rom student where state in (‘Ap’, ’Bengulur’,’deli’);

1. **Between:** It selects the middle value from a range of values.

**Syntax:** select col name from table name between val1 and val2;

**EX:** SELECT name FROM students WHERE age BETWEEN 18 AND 25;

1. **Avg():** return the average value of a particular col.

**Syntax:** select avg(col name) from table name where condition.

**EX:** SELECT AVG(age) FROM students WHERE grade = 'A';

1. **Count:** return the number of records which satisfies our condition.

**Syntax:** select count(col name) from table name where condition.

**EX:** SELECT COUNT(name) FROM students WHERE grade = 'A';

1. **Group by:** group the data present in the rows with same values.

**Syntax:** select col name from table name where condition group by col name order by col name.

**Ex:** **Count students by grade**

**SELECT grade, COUNT(\*) AS student\_count**

**FROM students**

**GROUP BY grade**

**ORDER BY student\_count DESC;**

1. **explain the concept of joins with examples..?**

**Joins:-**

Joins are used with select statement.

Used to retrieve the data from multiple table from same databases.

Fetching the records from different tables will be very easy.

There are 3 types of mysql joins.

1. Inner join (simple join).

2. Outer join.

It have different types.

Left outer join.

Right outer join.

3.Right join.

**1.Inner join (simple join):-** In order to return all the rows from multiple tables where the join condition is satisfied.

This is the most commonly used join in mysql.

**Syntax: select col from table inner join table 2 on table on table1 col1 table col1;**

**2.Outer left join:-** It will return all rows from the left hand side table and all the rows from right hand side table by satisfied.

**Syntax :- select cols from table left outer join table2 on table2 on table1 col\_table2 col;**

**3.Right join:-** Right outer join.

Return allows from the right hand table with right hand table rows on to the right table by satisfied the join condition.

**Syntax:- select cols from table 1 right join table col table2 col;**

4.Self join: the data/rows in the table are combined/ joined with the same data/ rows in the same table.

**Syntax: select col\_name from table1,table2 where condition;**

5.Cross join: It will return all the records from both the tables(table1 & table).

**Syntax: select col\_name from table1 cross join table2;**

**Queries:**

1.select s.Sname,s.course,s.brach,s.Address,e.empId,e.Empname,e.Empsalary,e.location from student s **join** employee e on

s.Sno = e.empId;

2. select s.Sname,s.course,s.brach,s.Address,e.empId,e.Empname,e.Empsalary,e.location from student s **inner join** employee e on

s.Sno = e.empId;

3. select s.Sno,s.Sname, s.course, s.brach,s.Address,e.Empsalary,e.location from student s **left outer join**  employee e on

s.Sno = e.empId;

5. select s.course,s.brach,s.Address,e.empId,e.Empname,e.Empsalary,e.location from student s **right outer join** employee e on

s.Sno = e.empId;

6.select \* from student **cross join** employee;

**Self join**

7.select s.Sno,s.Sname ,e.Sname as manager, s. course,e.course as 'role' from

student s join student e on s.Sno=e.manager\_id;

1. **create a trigger and explain..?**

A trigger is a user defined sql commend that is invoked automatically in response to an event such as insert, delete or update.

Dlimeter:it is mark of end of the each commed. End with semicolns

Syntax: create trigger

Trigger-name trigger\_time

Trigger-event

On table-name for each row

Begin

End;

delimiter //

create trigger

check\_null\_dob

after insert on customer1

for each row

begin

if new.birthdate is null then

insert into message (messageId, message)

values(new.id, concat('hi',new.name,'please update your data of birth'));

end if;

end //