

Ineuron

Assignment:-5

Question-1: Explain super() in the context of inheritance.

Ans: super is used to refer immediate parent class instance variable. We can use super keyword to access the data member or field of parent class. It is used if parent class and child class have same fields.

Python | super() in single inheritance

Prerequisites: Inheritance, function overriding

At a fairly abstract level, super() provides the access to those methods of the super-class (parent class) which have been overridden in a sub-class (child class) that inherits from it. Consider the code example given below, here we have a class named Square and an another class named Cube which inherits the class Square.

class Square:

```
def __init__(self, side):
    self.side = side
    def area(self):
        return self.side * self.side
    class Cube(Square):
        def area(self):
```

A SquarePrism instance has two attributes, the side of it's square base and the height of the square prism. The instance method face_area() returns a tuple of two numbers representing the base area of the square prism and the lateral area of the square prism. Since the base is a square, for base area of the square prism, we call the method Square.area() as super().area(). The area() method returns the total surface area of the square prism.

Until now, we have used super() without any parameters, now follows the definition of the new class Cube which will demonstrate the use of super() with parameters.

class Cube(SquarePrism):

```
def __init__(self, side)
face_area = self.side * self.side
return face_area * 6
def volume(self):
    face_area = self.side * self.side
    return face_area * self.side .
```

Question-2:Describe the file handling system.

Ans: A file management system is used for file maintenance (or management) operations. It is is a type of software that manages data files in a computer system. A file management system has limited capabilities and is designed to manage individual or group files, such as special office documents and records.It may display report details, like owner, creation date, state of completion and similar features useful in an office environment.

A file management system is also known as a file manager.

Techopedia Explains File Management System:

Data on every computer is stored in a complex hierarchical file system constituted of directories and subdirectories beneath them. Files are stashed inside these directories, usually following pre-determined hierarchical structures determined by a program's instructions.

The system may contain features like:

1. Assigning queued document numbers for processing.
2. Owner and process mapping to track various stages of processing.
3. Report generation.
4. Notes.
5. Status.
6. Create, modify, move, copy, delete and other file operations.
7. Add or edit basic metadata.

In Microsoft Windows operating systems, the default file management system is Windows Explorer. On Mac computers, instead, this role is taken belongs to a tool called Finder. Although the functionality offered by these file management systems is pretty basic, they are usually enough for most users.

A file management system should not be confused with a file system, which manages all types of data and files in an operating system (OS), or a database management system (DBMS), which has relational database capabilities and includes a programming language for further data manipulation.

Question-3: In python , explain multiple inheritance.

Ans: A class can be derived from more than one base class in Python, similar to C++. This is called multiple inheritance. In multiple inheritance, the features of all the base classes are inherited into the derived class. The syntax for multiple inheritance is similar to single inheritance.

Multiple Inheritance in Python

Inheritance is the mechanism to achieve the re-usability of code as one class(child class) can derive the properties of another class(parent class). It also provides transitivity ie. if class C inherits from P then all the sub-classes of C would also inherit.

Question-4: Write the MySQL query syntax of INSERT, UPDATE , and DROP.

Ans: Data Manipulation: SELECT, INSERT, UPDATE, DELETE

SELECT Syntax

```
SELECT [STRAIGHT_JOIN]
      [SQL_SMALL_RESULT] [SQL_BIG_RESULT] [SQL_BUFFER_RESULT]
      [SQL_CACHE | SQL_NO_CACHE] [SQL_CALC_FOUND_ROWS] [HIGH_PRIORITY]
      [DISTINCT | DISTINCTROW | ALL]
      select_expression,...
      [INTO {OUTFILE | DUMPFILE} 'file_name' export_options]
      [FROM table_references
        [WHERE where_definition]
        [GROUP BY {unsigned_integer | col_name | formula} [ASC |
DESC], ...]
        [HAVING where_definition]
```

[ORDER BY {unsigned_integer | col_name | formula} [ASC | DESC] ,...]

[LIMIT [offset,] rows]

[PROCEDURE procedure_name]

[FOR UPDATE | LOCK IN SHARE

SELECT is used to retrieve rows selected

from one or more tables. select_expression indicates the columns you want to retrieve. SELECT may also be used to retrieve rows computed without reference to any table. For example:

```
mysql> SELECT 1 + 1;
```

```
-> 2
```

-All keywords used must be given in exactly the order shown in the preceding example.

For instance, a HAVING clause must come after any GROUP BY clause and before any ORDER BY clause.

-A SELECT expression may be given an alias using AS. The alias is used as the expression's column name and can be used with ORDER BY or HAVING clauses. For example:

```
mysql> SELECT CONCAT(last_name,', ',first_name) AS full_name
```

```
FROM mytable ORDERBY full_name;
```

You cannot use a column alias in a WHERE clause because the column value may not yet be determined when the WHERE clause is executed.

The FROM table_references clause indicates the tables from which to retrieve rows. If you name more than one table, you are performing a join. For information on join syntax, see Section [6.4.1.1](#). For each table specified, you may optionally specify an alias:

table_name [[AS] alias] [USE INDEX (key_list)] [IGNORE INDEX (key_list)].

Question-5: Describe mongoDB's features.

Ans:It contains heterogeneous data. It provides high performance, availability, scalability. It supports Geospatial efficiently. It is a document oriented database and the data is stored in BSON documents. It also supports multiple document ACID transition(string from MongoDB 4.0) MongoDB is an open-source document-oriented database that is designed to store a large scale of data and also allows you to work with that data very efficiently. It is categorized under the NoSQL (Not only SQL) database because the storage and retrieval of data in the MongoDB are not in the form of tables.

The MongoDB database is developed and managed by MongoDB.Inc under SSPL(Server Side Public License) and initially released in February 2009. It also provides official driver support for all the popular languages like C, C++, C#, and .Net, Go, Java, Node.js, Perl, PHP, Python, Motor, Ruby, Scala, Swift, Mongoid. So, that you can create an application using any of these languages. Nowadays there are so many companies that used MongoDB like Facebook, Nokia, eBay, Adobe, Google, etc. to store their large amount of data.

Now, we will see how actually thing happens behind the scene. As we know that MongoDB is a database server and the data is stored in these databases. Or in other words, MongoDB environment gives you a server that you can start and then create multiple databases on it using MongoDB.

1. The MongoDB database contains collections just like the MYSQL database contains tables.

You are allowed to create multiple databases and multiple collections.

2. 2. Now inside of the collection we have documents. These documents contain the data we

want to store in the MongoDB database and a single collection can contain multiple documents and you are schema-less means it is not necessary that one document is similar to another.

3. 3. The documents are created using the fields. Fields are key-value pairs in the documents, it is just like columns in the relation database. The value of the fields can be of any BSON data types like double, string, boolean, etc.