INSTITUTE OF TECHNOLOGY AND MANAGEMENT
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KHARGHAR, NAVI MUMBAI

PYTHON PROGRAMMING LAB

Prepared by:

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Batch: 2023-27

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Exp. No	List of Experiment
1	1.1 Write a program to compute Simple Interest.

	1.2 Write a program to perform arithmetic, Relational operators.
	1.3 Write a program to find whether a given no is even & odd.
	1.4 Write a program to print first n natural number & their sum.
	1.5 Write a program to determine whether the character entered is a Vowel or not .
	1.6 Write a program to find whether given number is an Armstrong Number.
	1.7 Write a program using for loop to calculate factorial of a No.
	1.8 Write a program to print the following pattern
	i) * * * * * * * * * * * * * * *
	ii) 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5
	iii) *

2	2.1 Write a program that define the list of defines the list of define countries that are in BRICS.
	2.2 Write a program to traverse a list in reverse order. 1.By using Reverse method. 2.By using slicing
	2.3 Write a program that scans the email address and forms a tuple of username and domain.
	2.4 Write a program to create a list of tuples from given list having number and add its cube in tuple. i/p: c= [2,3,4,5,6,7,8,9]
	2.5 Write a program to compare two dictionaries in Python? (By using == operator)
	2.6 Write a program that creates dictionary of cube of odd numbers in the range.
	2.7 Write a program for various list slicing operation. a= [10,20,30,40,50,60,70,80,90,100] i. Print Complete list ii. Print 4th element of list iii. Print list from0th to 4th index. iv. Print list -7th to 3rd element v. Appending an element to list. vi. Sorting the element of list. vii. Popping an element. viii. Removing Specified element. ix. Entering an element at specified index. x. Counting the occurrence of a specified element. xi. Extending list. xii. Reversing the list.
3	3.1 Write a program to extend a list in python by using given approach. i. By using + operator. ii. By using Append () iii. By using extend ()

	3.2 Write a program to add two matrices.
	3.3 Write a Python function that takes a list and returns a new list with distinct elements from the first list.
	3.4 Write a program to Check whether a number is perfect or not.
	3.5 Write a Python function that accepts a string and counts the number of upper and lower-case letters. string_test= 'Today is My Best Day'
4	4.1 Write a program to Create Employee Class & add methods to get employee details & print.
	4.2 Write a program to take input as name, email & age from user using combination of keywords argument and positional arguments (*args and**kwargs) using function,
	4.3 Write a program to admit the students in the different Departments(pgdm/btech)and count the students. (Class, Object and Constructor).
	4.4 Write a program that has a class store which keeps the record of code and price of product display the menu of all product and prompt to enter the quantity of each item required and finally generate the bill and display the total amount.
	4.5 Write a program to take input from user for addition of two numbers using (single inheritance).
	4.6 Write a program to create two base classes LU and ITM and one derived class. (Multiple inheritance).
	4.7 Write a program to implement Multilevel inheritance, Grandfather→Father-→Child to show property inheritance from grandfather to child.

	4.8 Write a program Design the Library catalogue system using inheritance take base class (library item) and derived class (Book, DVD & Journal) Each derived class should have unique attribute and methods and system should support Check in and check out the system. (Using Inheritance and Method overriding)

5	5.1 Write a program to create my_module for addition of two numbers and import it in main script.
	5.2 Write a program to create the Bank Module to perform the operations such as Check the Balance, withdraw and deposit the money in bank account and import the module in main file.
	5.3 Write a program to create a package with name cars and add different modules (such as BMW, AUDI, NISSAN) having classes and functionality and import them in main file cars.
6	6.1 Write a program to implement Multithreading. Printing “Hello” with one thread & printing “Hi” with another thread.
7.	7.1 Write a program to use ‘whether API’ and print temperature of any city, also print the sunrise and sunset times for the same humidity of that area.
	7.2 Write a program to use the ‘API’ of crypto currency.

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_____ Experiment No:

7.2

Title: 7.2 Write a program to use the ‘API’ of crypto currency.

Theory: **CoinGecko API:**

- **The program uses the CoinGecko API to fetch real-time cryptocurrency prices.**
- **The API endpoint used is https://api.coingecko.com/api/v3/simple/price, and it requires a specific API key for authentication (x_cg_demo_api_key parameter).**
- **User Input:**
- **The program prompts the user to enter the name of a cryptocurrency.**
- **API Request:**
- **It constructs a URL with the user-provided cryptocurrency and the API key.**
- **Uses the requests.get method to make a GET request to the CoinGecko API.**
- **JSON Response:**
- **Converts the API response to JSON format using response.json().**
- **Displaying Results:**
- **Checks if the entered cryptocurrency is present in the API response.**
- **If found, prints the cryptocurrency name and its current prices in USD and INR.**
- **If not found, informs the user that the entered cryptocurrency is invalid.**
- **Continuation:**
- **Asks the user if they want to see more cryptocurrencies.**
- **If the user enters 'n', the program breaks out of the loop and terminates.**

Code:

```
API_KEY='CG-Kjmr47XUisC8wTQ75jsf7wAS'
import requests
while True:
 coin=input("Enter cryptocoin: ")
 response =
requests.get(f"https://api.coingecko.com/api/v3/simple/price?ids={coin}&vs_currencies=usd,inr&x_cg_demo_api_key={
API_KEY}")
 a=response.json()
 if coin in a:
    print(a)
    print("\nCrypto:",coin)
    print("Price:",a[coin]['usd'],"USD")
    print("Price:",a[coin]['inr'],"INR")
 else:
   print("Invalid cryptocoin!")
   b=input("Want to see more cryptocoins?(y/n):")
 if b.lower() == "n":
   break
```

Output: (screenshot)

Test Case: Any two (screenshot)

Conclusion:**The program provides a**

simple interface for users to check the

current prices of cryptocurrencies.

- **It demonstrates the use of the requests library to interact with an API and handle JSON responses.**
- **The loop structure allows users to continue checking cryptocurrency prices until they choose to exit.**
- **It's important to note that this is a basic example, and in a real-world scenario, error handling, proper user input validation, and security considerations (such as handling API keys) would be essential.**