**Session1 Modules**

**Generate a random color hex, alphabetical string, random value and multiple of 7**\ Use the random and string modules:

import random, string

color*hex = "#{:06x}".format(random.randint(0, 0xFFFFFF))*

*alpha*string = ''.join(random.choices(string.ascii*letters, k=10))*

*random*value = random.randint(1, 100)

multiple*of*7 = random.choice([x for x in range(1, 100) if x % 7 == 0])

**Construct a seeded random number and float number generator**

random.seed(42)

print(random.randint(1, 100))

print(random.uniform(1.0, 10.0))

**Which keyword is used to import a module in Python?**\ **import**

**How can you import a specific function from a module in Python?**\ Use from keyword:

from math import sqrt

**Which keyword is used to create an alias while importing a module in Python? And write a syntax for the same**\ **as**

import numpy as np

**Which module in Python is used for working with regular expressions? Give with example**\ **re module**

import re

match = re.search(r'\d+', 'There are 123 apples')

print(match.group())  # Output: 123

**Which module in Python is used for creating and managing threads?**\ **threading module**

**Session2 Errors**

**How can you handle errors and exceptions in Python?**\ Use try, except, finally blocks:

try:

    x = 1 / 0

except ZeroDivisionError:

    print("Cannot divide by zero")

finally:

    print("Done")

**What is a run-time error in Python? Explain with syntax**\ An error that occurs during execution:

x = int("abc")  # ValueError at runtime

**Describe what background debug mode is. And explain with example**\ It refers to debugging while the program runs in the background, often used in IDEs or with tools like pdb:

import pdb

**What is an intentional stop indicated in an application code called?**\ **Breakpoint** or **assert statement** or **exit()**

**Explain the concept of Errors and Exceptions with syntax**\ Errors stop execution; exceptions can be handled:

try:

    open("file.txt")

except FileNotFoundError:

    print("File not found")

**Session3 Input / Output**

**Write all content of a given file into a new file by skipping line number 5**

with open("input.txt") as f, open("output.txt", "w") as out:

    for i, line in enumerate(f, 1):

        if i != 5:

            out.write(line)

**Format variables using a string.format() method.**

name = "Bharath"

age = 25

print("Name: {}, Age: {}".format(name, age))

**How indexes are assigned to list elements?**\ Indexes start from **0**:

lst = ['a', 'b', 'c']

print(lst[0])  # Output: 'a'

**Write a Python program to read last n lines of a file.**

def read*last*n\_lines(filename, n):

    with open(filename) as f:

        lines = f.readlines()

        return lines[-n:]

**Write a Python program to combine each line from first file with the corresponding line in second file.**

with open("file1.txt") as f1, open("file2.txt") as f2:

    for l1, l2 in zip(f1, f2):

        print(l1.strip() + " " + l2.strip())