**ADITYA AMIN ASSIGN : 21**

1. Add the current date to the text file today.txt as a string.

import datetime

# Get the current date

current\_date = datetime.datetime.now().strftime("%Y-%m-%d")

# Write the current date to the file

with open("today.txt", "a") as file:

file.write(current\_date + "\n")

1. Read the text file today.txt into the string today\_string.

# Read the contents of the file into a string

with open("today.txt", "r") as file:

today\_string = file.read()

# Print the contents of the file

print(today\_string)

1. Parse the date from today\_string.

import datetime

# Assuming the date is in the format "YYYY-MM-DD" in the today\_string variable

date\_string = today\_string.strip() # Remove leading/trailing whitespaces if any

date\_format = "%Y-%m-%d" # Specify the expected date format

parsed\_date = datetime.datetime.strptime(date\_string, date\_format)

# Extract the year, month, and day components from the parsed\_date

year = parsed\_date.year

month = parsed\_date.month

day = parsed\_date.day

# Print the extracted components

print("Year:", year)

print("Month:", month)

print("Day:", day)

1. List the files in your current directory

import os

# Get the current directory

current\_directory = os.getcwd()

# List the files in the current directory

files = os.listdir(current\_directory)

# Print the list of files

print("Files in the current directory:")

for file in files:

print(file)

1. Create a list of all of the files in your parent directory (minimum five files should be available).

import os

# Get the parent directory

parent\_directory = os.path.abspath("..")

# List the files in the parent directory

files = os.listdir(parent\_directory)

# Print the list of files

print("Files in the parent directory:")

for file in files:

print(file)

1. Use multiprocessing to create three separate processes. Make each one wait a random number of seconds between one and five, print the current time, and then exit.

import multiprocessing

import random

import time

from datetime import datetime

# Function to be executed by each process

def print\_time\_and\_exit():

# Generate a random sleep time between 1 and 5 seconds

sleep\_time = random.randint(1, 5)

# Sleep for the generated time

time.sleep(sleep\_time)

# Get the current time

current\_time = datetime.now().strftime("%Y-%m-%d %H:%M:%S")

# Print the current time and process ID

print(f"Process ID: {multiprocessing.current\_process().pid}, Current Time: {current\_time}")

# Exit the process

multiprocessing.current\_process().exit()

# Create three separate processes

for i in range(3):

process = multiprocessing.Process(target=print\_time\_and\_exit)

process.start()

# Wait for all processes to finish

for process in multiprocessing.active\_children():

process.join()

1. Create a date object of your day of birth.

from datetime import datetime

# Specify the day of birth

day\_of\_birth = datetime(year=2000, month=1, day=1) # Replace with your actual day of birth

# Print the date object

print("Date of Birth:", day\_of\_birth.date())

1. What day of the week was your day of birth?

from datetime import datetime

# Specify the day of birth

day\_of\_birth = datetime(year=2000, month=1, day=1) # Replace with your actual day of birth

# Get the day of the week as an integer (0 = Monday, 1 = Tuesday, etc.)

day\_of\_week = day\_of\_birth.weekday()

# Map the integer to the corresponding day of the week string

days = ["Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday"]

day\_of\_week\_string = days[day\_of\_week]

# Print the day of the week

print("Day of Birth:", day\_of\_week\_string)

1. When will you be (or when were you) 10,000 days old?

from datetime import datetime, timedelta

# Specify the starting date

start\_date = datetime(year=2000, month=1, day=1) # Replace with your actual starting date

# Calculate the end date by adding 10,000 days to the starting date

end\_date = start\_date + timedelta(days=10000)

# Print the end date

print("10,000 days after the starting date:", end\_date.date())