ASSIGNMENT - 21 (PYTHON)

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

```
from datetime import date

# Get the current date
current_date = date.today()

# Open the file in append mode and write the current date as a string
with open('today.txt', 'a') as file:
    file.write(str(current_date) + '\n')
```

Output will be:
The output of the script will be the current date appended to the today.txt file. If the file didn't exist previously, it will create a new file and add the current date to it. The date will be added as a string followed by a newline character. For example, if today is May 19, 2024, the today.txt file would contain: 2024-05-19

2. Read the text file today.txt into the string today_string

```
# Open the file in read mode and read its contents into the string
with open('today.txt', 'r') as file:
    today_string = file.read()

# Print the contents to verify
print(today_string)
```

This script will read the contents of today.txt and store them in the variable today_string. We can then use today_string for further processing or printing.

3. Parse the date from today_string.

```
from datetime import datetime

# Parse the date from the string
parsed_date = datetime.strptime(today_string.strip(), '%Y-%m-%d')

# Print the parsed date to verify
print(parsed_date)
```

This code will parse the date stored in the today_string variable using the strptime method from the datetime module, with the specified format '%Y-%m-%d', which corresponds to year-month-day. The strip() method is used to remove any leading or trailing whitespace characters from the string before parsing. Finally, the parsed date is stored in the parsed_date variable.

4. List the files in your current directory

```
import os

# Get a list of files in the current directory
files_in_directory = os.listdir()

# Print the list of files
print("Files in the current directory:")
for file in files_in_directory:
    print(file)
```

When we run this code, it will print out the names of all the files in your current directory. If we want to list files from a specific directory, we can pass the directory path as an argument to the os.listdir() function.

5. 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(os.path.join(os.getcwd(), os.pardir))

# Get a list of files in the parent directory
files_in_parent_directory = os.listdir(parent_directory)

# Print the list of files
print("Files in the parent directory:")
for file in files_in_parent_directory:
    print(file)
```

This code will list all the files in the parent directory of the current working directory. Adjustments can be made if we want to list files from a specific directory other than the parent directory.

6. 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 time
import random
from datetime import datetime

def print_current_time():
    # Generate a random sleep time between 1 and 5 seconds
    sleep_time = random.randint(1, 5)
    # Wait for the random sleep time
    time.sleep(sleep_time)
    # Get the current time
    current_time = datetime.now().strftime("%Y-%m-%d %H:%M:%S")
    # Print the current time
    print(f"Process {multiprocessing.current_process().name}: Current time is {current_time}")

if __name__ == "__main__":
    # Create three separate processes
    processes = []
    for i in range(3):
        process = multiprocessing.Process(target=print_current_time, name=f"Process-{i+1}")
        processes.append(process)
        process.start()

    # Wait for all processes to finish
    for process in processes:
        process.join()
```

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

```
from datetime import date

# Create a date object for your date of birth
date_of_birth = date(1995, 7, 16)

# Print the date object
print("Date of birth:", date_of_birth)
```

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

```
from datetime import date

# Create a date object for your date of birth
```

```
date_of_birth = date(1995, 7, 16)

# Get the day of the week (0 = Monday, 1 = Tuesday, ..., 6 = Sunday)
day_of_week = date_of_birth.weekday()

# Define a list of days of the week
days_of_week = ["Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday",
"Sunday"]

# Print the day of the week
print("Day of the week of your date of birth:", days_of_week[day_of_week])
```

Output will be: Day of the week of your date of birth:Sunday

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

```
from datetime import date, timedelta

# Date of birth
date_of_birth = date(1995, 7, 16)

# Number of days to add
days_to_add = 10000

# Calculate the date when you will be (or were) 10,000 days old
target_date = date_of_birth + timedelta(days=days_to_add)

# Print the result
print("You will be (or were) 10,000 days old on:", target_date)
```

Output will be: You will be (or were) 10,000 days old on: 2023-11-01