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

Answer:

```
from datetime import date,datetime
now=datetime.now()
x=now.strftime("%H:%M:%S")
y=date.today().strftime("%d-%m-%y")
print(x,y)

with open('today.txt','w') as file:
    input=file.write(y)
    file.close()
```

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

Answer:

```
with open('today.txt','r') as file:
    string = file.read()
    print(string)

OUTPUT >>> 16-01-22
```

3. Parse the date from today_string.

Answer:

```
date_today=datetime.strptime(string,'%d-%m-%y').strftime("%d-%m-%y")
date_today

OUTPUT >>> '16-01-22'
```

4. List the files in your current directory

Answer:

```
import os
os.listdir('.')

OUTPUT >>> ['.ipynb_checkpoints',
 'Assignments',
```

```
 'books.csv',
 'books.db',
 'books.db-journal',
 'file 1.pdf',
 'file 2.pdf',
 'Homework.ipynb',
 'MergedFile.pdf',
 'photo.JPG',
 'Python Basics.ipynb',
 'Second practise.ipynb',
 'test1.txt',
 'today.txt',
 'yellow.png']
```

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

Answer:

```
import os
#get current path
path=os.getcwd()

#print the parent directory
parent  = os.path.abspath(os.path.join(path,os.pardir))
print("the parent directory is",parent)

files = [file for file in os.listdir(parent) if os.path.isfile(os.path.join(parent, file))]
files[0:5]

OUTPUT >>> ['.condarc', '.gitconfig', '.viminfo', 'NTUSER.DAT', 'ntuser.dat.LOG1']
```

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.

Answer:

```
from multiprocessing import Process
from datetime import datetime
import time

def worker():
    ### time print function ###
    print('Time now is:', datetime.now().strftime("%H:%M:%S"))
```

```
if __name__ == '__main__':

    p = Process(target=worker)
    q = Process(target=worker)
    r=Process(target=worker)

    time.sleep(2)
    p.start()
    time.sleep(4)
    q.start()
    time.sleep(1)
    r.start()
    p.join()
    q.join()
    r.join()



OUTPUT >>> Time now is: 09:44:32
Time now is: 09:44:36
Time now is: 09:44:37
```

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

Answer:

```
from datetime import datetime,date
import re

###REGEX Pattern to compare input to date format (imperfect, but checks 2-2-4 digits with special
###character breaks.

regex_pattern = re.compile(r'([\d]{1,2}(\/|-|:)[\d]{1,2}(\/|-|:)[\d]{4})')

def enterdob():
    dob=str(input("enter your date of birth as dd-mm-yyyy or dd:mm:yyyy or dd/mm/yyyy format
ONLY"))

    if re.match(regex_pattern,dob) is None:
        raise Exception("wrong format")
    else:
      ### strptime converts a string to a datetime object, and date() returns the date instance

        dob_obj=datetime.strptime(dob,"%d-%m-%Y").date()
        print("Your birthday string converted to date object is", dob_obj)
        print(type(dob_obj))

enterdob()
```

```
OUTPUT >>> enter your date of birth as dd-mm-yyyy or dd:mm:yyyy or dd/mm/yyyy format
ONLY
11-11-1980
Your birthday string converted to date object is 1980-11-11
<class 'datetime.date'>
```

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

Answer:

```
from datetime import datetime,date
import re

regex_pattern = re.compile(r'([\d]{1,2}(\/|-|:)[\d]{1,2}(\/|-|:)[\d]{4})')

def dayofweek():
   dob=str(input("enter your date of birth as dd-mm-yyyy or dd:mm:yyyy or dd/mm/yyyy format
ONLY"))
   if re.match(regex_pattern,dob) is None:
      raise Exception("wrong format")
   else:
      dob_obj=datetime.strptime(dob,"%d-%m-%Y").date()
      print("Day of week you were born is", dob_obj.strftime("%A"))

dayofweek()


OUTPUT >>> enter your date of birth as dd-mm-yyyy or dd:mm:yyyy or dd/mm/yyyy format
ONLY
31-12-2021
Day of week you were born is Friday
```

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

```
from datetime import datetime,date,timedelta

import re

regex_pattern = re.compile(r'([\d]{1,2}(\/|-|:)[\d]{1,2}(\/|-|:)[\d]{4})')

def tenthousand():
```

```python
    dob=str(input("enter your date of birth as dd-mm-yyyy or dd:mm:yyyy or dd/mm/yyyy format
ONLY"))
    if re.match(regex_pattern,dob) is None:
        raise Exception("wrong format")
    else:
        begin_date=datetime.strptime(dob,"%d-%m-%Y").date()
        end_date = begin_date + timedelta(days=10000)
        print("You will complete 10,000 days on",end_date)

tenthousand()
```

OUTPUT >>> **enter your date of birth as dd-mm-yyyy or dd:mm:yyyy or dd/mm/yyyy format
ONLY**
31-12-2021
You will complete 10,000 days on 2049-05-18