Lab 3

$cd ~/iot

- Entering path directory iot

*$ cd *3*

- Entering path directory lesson 3

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak$ cd iot
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot$ cd*3
cd*3: command not found
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot$ cd  *3
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$
```

$ python3 julian.py

- Julian.py prints the date today and the date as a Julian date.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 julian.py
Calendar Date: 2023-04-30
Julian Date: 2460064.5
Modified Julian Date: 60064.0
```

$ python3 date_example.py

- Date_example.py publishes the current date today in different variations, the day of the week, the month, the year, how many days after the first day of classes, and how many days before the last day of classes.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 date_example.py
Date: 2023-04-30
Date: 04-30-23
Day of Week: Sunday
Month: April
Year: 2023
241 days after the first day of classes
-137 days before the last day of classes
```

$ python3 datetime_example.py

- Datetime_example prints the date and time in various different forms.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 datetime_example.py
2023-04-30 22:03:44.224629
2023-04-30 22:03:44.224718
2023-05-01 02:03:44.224732
1682906624.2247365
Sun Apr 30 22:03:44 2023
2023-04-30 22:03:44.224800
2023-05-01 02:03:44.224858
```

$ python3 time_example.py

- Time_example prints the day of the week, date, and time with the increment being every 10 seconds.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 time_example.py
Sun Apr 30 22:04:10 2023
Sun Apr 30 22:04:20 2023
Sun Apr 30 22:04:30 2023
Sun Apr 30 22:04:40 2023
Sun Apr 30 22:04:50 2023
Sun Apr 30 22:05:00 2023
Sun Apr 30 22:05:10 2023
Sun Apr 30 22:05:20 2023
Sun Apr 30 22:05:30 2023

Sun Apr 30 22:05:40 2023
Sun Apr 30 22:05:50 2023
Sun Apr 30 22:06:00 2023
Sun Apr 30 22:06:10 2023
Sun Apr 30 22:06:20 2023
Sun Apr 30 22:06:30 2023
Sun Apr 30 22:06:40 2023
Sun Apr 30 22:06:50 2023
Sun Apr 30 22:07:00 2023
Sun Apr 30 22:07:10 2023
Sun Apr 30 22:07:20 2023
```

$ python3 sun.py 'New York'

- sun.py provides information on New York. It states what time zone it's in, the longitude, and latitude of the location, and the time and date of the following: dawn, sunrise, noon, sunset, and dusk)

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 sun.py 'New York'
Information for New York/USA

Timezone: US/Eastern
Latitude: 40.72; Longitude: -74.00

Dawn:    2023-05-01 05:24:54.490627-04:00
Sunrise: 2023-05-01 05:55:08.678720-04:00
Noon:    2023-05-01 12:53:11-04:00
Sunset:  2023-05-01 19:51:44.661736-04:00
Dusk:    2023-05-01 20:22:05.364214-04:00
```

$ python3 moon.py

- Moon.py states what the phase of the moon is on certain dates.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 moon.py
2023-05-01 Moon Phase: 10
2023-05-02 Moon Phase: 11
2023-05-03 Moon Phase: 11
2023-05-04 Moon Phase: 12
2023-05-05 Moon Phase: 13
2023-05-06 Moon Phase: 14
2023-05-07 Moon Phase: 15
2023-05-08 Moon Phase: 16
2023-05-09 Moon Phase: 17
2023-05-10 Moon Phase: 18
2023-05-11 Moon Phase: 19
2023-05-12 Moon Phase: 20
2023-05-13 Moon Phase: 21
2023-05-14 Moon Phase: 22
2023-05-15 Moon Phase: 23
2023-05-16 Moon Phase: 24
2023-05-17 Moon Phase: 25
2023-05-18 Moon Phase: 26
2023-05-19 Moon Phase: 27
2023-05-20 Moon Phase: 0
2023-05-21 Moon Phase: 1
2023-05-22 Moon Phase: 2
2023-05-23 Moon Phase: 3
2023-05-24 Moon Phase: 4
2023-05-25 Moon Phase: 5
2023-05-26 Moon Phase: 6
2023-05-27 Moon Phase: 6
2023-05-28 Moon Phase: 7
2023-05-29 Moon Phase: 8
2023-05-30 Moon Phase: 9
```

$ python3 coordinates.py 'SC Williams Library'

- Gives the address, longitude, and latitude of the place entered.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 coordinates.py 'SC Williams Library'
Library Parking, Williams Lake, Cariboo Regional District, British Columbia, Canada
(52.130143399999994, -122.14187089155848)
```

$ python3 address.py '40.74480675, -74.02532862031404'

- Gives the address, longitude, and latitude of the coordinates entered.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 address.py '40.74480675, -74.02532862031404'
Samuel C. Williams Library, Field House Road, Hoboken, Hudson County, New Jersey, 07030, United States
(40.74480675, -74.02532861159351)
```

$ python3 cpu.py

- Displays the number of physical cores and logical CPUs. Then it presented the utilization per second as a percentage for each CPU.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 cpu.py
The number of physical cores =  4
The number of logical CPUs =  8
The utilization per second as a percentage for each CPU
[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]
[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1.0, 1.0]
[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]
[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]
[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]
[0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0]
[1.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]
[0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0]
[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1.0]
[0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 0.0]
```

$ python3 battery.py

- Displays battery percent, how much longer till the computer dies, and if the power is plugged in.

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 battery.py
sbattery(percent=84.62, secsleft=<BatteryTime.POWER_TIME_UNLIMITED: -2>, power_plugged=True)
```

$ python3 documentstats.py document.txt

- Displays stats about the document (word count, most displayed words, and how many times they were displayed)

```
nkundra@DESKTOP-4TNRFB2:/mnt/c/Users/nehak/iot/lesson3$ python3 documentstats.py document.txt
Word Count: 1343
Top Ten Words: [('our', 26), ('their', 20), ('has', 20), ('he', 19), ('them', 15), ('these', 13), ('have', 11), ('we', 11), ('us',
11), ('people', 10)]
```