Environment Project A

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In [42]:
```python
import numpy as np
import pandas as pd
import os
import datetime
```

In [6]:
```python
def read_txt(filename):
    save_ls = []
    with open(filename, 'r') as file:
        for line in file:
            line = line.split(',')
            for val in line:
                save_ls.append(val)
    return save_ls
```

In [7]:
```python
# read in sensor data
hum = read_txt('CS109a_humidity.txt')
light = read_txt('CS109a_light.txt')
motion = read_txt('CS109a_motion.txt')
pressure = read_txt('CS109a_pressure.txt')
temp = read_txt('CS109a_temperature.txt')
```

In [78]:
```python
# generate times (every 30 minutes) from initial start date
oct23 = datetime.datetime(2019, 10, 23, hour=8, minute=16)
dates = [oct23]
for i in range(73):
    dates.append(dates[i] + datetime.timedelta(minutes=30))
```

In [80]:
```python
# create dataframe of variables
df = pd.DataFrame({'date': dates,'temp': temp, 'hum': hum, 'press': pressure, 'light': light,
                   'motion': motion})
# drop last empty row
df.drop(df.tail(1).index,inplace=True)
```

```
In [82]:   # sneak peak of data
           df.head()
```

Out[82]:

	date	hum	light	motion	press	temp
0	2019-10-23 08:16:00	51.40	4095.00	0.00	100852.74	23.40
1	2019-10-23 08:46:00	51.30	4095.00	0.00	100863.52	22.20
2	2019-10-23 09:16:00	51.40	4095.00	0.00	100934.15	22.10
3	2019-10-23 09:46:00	50.60	4095.00	0.00	100909.61	21.90
4	2019-10-23 10:16:00	50.60	4095.00	0.00	100981.50	21.80