Introduction to AI Programming

Python Introduction, Installation

COURSE TITLE

Introduction to AI Programming

Assignment no: 1

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1. Load the CSV manually
   1.1. Use the csv module
   1.2. Store each column separately:
   1.2.1. days = [ ]
   1.2.2. hours = [ ]
   1.2.3. consumptions = [ ]

In [6]:
```
import csv    # 1.1 importing csv module
days=[]
hours=[]
consumption=[]
with open(r"D:\3rd semester\introduction to AI\Assignments and OEL\Assignment 2
 read=csv.reader(f)
 f=list(read)
for index,r in enumerate(f):
  if index==0:
    continue
  days.append(float(r[0]))    #1.2.1 storing days column in list
  hours.append(float(r[1]))   #1.2.2 storing hours column in list
  consumption.append(float(r[2]))   #1.2.3 storing consumption column in list
```

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2. Group consumption by hour (manual group-by) Create a dictionary like:

   { 1: [200, 700, 800, 500],

   2: [300, 600, 700, 400],

   3: [500, 400, 600, 650] }

   2.1. Compute average consumption per hour

   2.2. Compute peak consumption per hour

   2.3. Print results in a neat format

In [7]:
```
group={ 1: [200, 700, 800, 500],2: [300, 600, 700, 400],3: [500, 400, 600, 650]
avg=dict()
peak=dict()
for i,g in enumerate(group.values()):
    avg[i+1]=sum(g)/len(g)      #2.1 compting average consumption per hour
    peak[i+1]=max(g)        #2.1 compting peak consumption per hour
```

In [ ]:
```
#2.3 printing result
for i,a in avg.items():
    print(f"Hour: {i} avg consumption is->",a)
print("\n")
for i,p in peak.items():
    print(f"Hour: {i} peak consumption is->",p)
```

```
Hour: 1 avg consumption is-> 550.0
Hour: 2 avg consumption is-> 500.0
Hour: 3 avg consumption is-> 537.5


Hour: 1 peak consumption is-> 800
Hour: 2 peak consumption is-> 700
Hour: 3 peak consumption is-> 650
```

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3. Group consumption by day

   3.1. Create a dictionary like:

   { 7: [200,300,500,700,600,400],

   8: [800,700,600,500,400,650] }

   3.2. Compute total consumption per day

   3.3. Compute daily average.

In [8]:
```
group={7:[200,300,500,700,600,400],8:[800,700,600,500,400,650]}
avg=dict()
sam=dict()
for i,g in enumerate(group.values()):
    sam[i+1]=sum(g)             #3.2 calculating total consumption per day
    avg[i+1]=sum(g)/len(g)      #3.3 calculating avg consumption per day
```

In [2]:
```
for i,a in avg.items():
    print(f"Day: {i} avg consumption is->",a)
print("\n")
for i,p in sam.items():
    print(f"Day: {i} sum consumption is->",p)
```

```
Day: 1 avg consumption is-> 450.0
Day: 2 avg consumption is-> 608.3333333333334


Day: 1 sum consumption is-> 2700
Day: 2 sum consumption is-> 3650
```