Generating frequency table using Dictionary

In [1]:
```
from csv import reader
```

In [2]:
```
fruits = ['banana', 'orange', 'kiwi', 'apple', 'banana', 'orange', 'pea
```

In [3]:
```
freq = {}
for i in fruits:
    if i not in freq:
        freq[i] = 1
    else:
        freq[i] += 1
```

In [4]:
```
freq
```

Out[4]:
```
{'banana': 4, 'orange': 3, 'kiwi': 5, 'apple': 3, 'peach': 3}
```

In [5]:
```
freq.items()
```

Out[5]:
```
dict_items([('banana', 4), ('orange', 3), ('kiwi', 5), ('apple', 3), ('pea
ch', 3)])
```

str.format() method

In [6]:
```
'saad is a Data Scientist'
```

Out[6]:
```
'saad is a Data Scientist'
```

In [7]:
```
dataset = list(reader(open('students_data_updated.csv', encoding = 'utf
```

In [8]:
```
name = 'saad'
per = '80.0'
salary = 100000
print('{} is a Data Scientist and achieve {} grade in their exams. thei
```

```
saad is a Data Scientist and achieve 80.0 grade in their exams. their sala
ry is 100,000
```

In [9]:
```
print('{} is a Data Scientist and achieve {} grade in their exams. thei
```

```
saad is a Data Scientist and achieve 80.0 grade in their exams. their sala
ry is 100,000.0
```

In [10]:
```
print('{} is a Data Scientist and achieve {} grade in their exams. thei
```

```
saad is a Data Scientist and achieve 80.0 grade in their exams. their sala
ry is 100000.0
```

Functions

```
1 def fun_name():
2     statements
3     return value
```

In [11]:
```
1 def output():
2     return 'Hello World'
```

In [12]:
```
1 x = output()
```

In [13]:
```
1 print(x)
```

```
Hello World
```

In [14]:
```
1 def add(x, y):
2     return x+y
```

In [15]:
```
1 add(12, 15)
```

Out[15]: 27

In [16]:
```
1 def calculator(a, b, c):
2     return a+b, b-c
```

In [17]:
```
1 ansa, ansb = calculator(5, 7, 3)
```

In [18]:
```
1 ansa
```

Out[18]: 12

In [19]:
```
1 ansb
```

Out[19]: 4

In [20]:
```
1 calculator(c=5, a=3, b=7)
```

Out[20]: (10, 2)

In [21]:
```
1 def discount(price, rate = 0.15):
2     return price * rate
```

In [22]:
```
1 discount(100)
```

Out[22]: 15.0

In [23]:
```
1 discount(100, 0.10)
```

Out[23]: 10.0

Skill Test:

In [24]:
```
header = dataset[0]
data = dataset[1:]
```

In [25]:
```
for i in data:
    per = float(i[6])
    if 90 <= per <= 100:
        i.insert(7, 'A+')
    elif 80 <= per < 90:
        i.insert(7, 'A')
    elif 70 <= per < 80:
        i.insert(7, 'B')
    elif 60 <= per < 70:
        i.insert(7, 'C')
    elif 50 <= per < 60:
        i.insert(7, 'D')
    else:
        i.insert(7, 'Fail')
```

In [26]:
```
data
```

Out[26]:
```
[['101', 'Aliza', '45', '99', '88', '232', '77.33', 'B'],
 ['102', 'Soban', '50', '97', '87', '234', '78.0', 'B'],
 ['103', 'Noman', '43', '94', '89', '226', '75.33', 'B'],
 ['104', 'Bilal', '42', '87', '85', '214', '71.33', 'B'],
 ['105', 'Saim', '39', '76', '76', '191', '63.67', 'C'],
 ['106', 'Shameer', '38', '58', '75', '171', '57.0', 'D'],
 ['107', 'Zainab', '47', '92', '78', '217', '72.33', 'B'],
 ['108', 'Umer', '46', '86', '73', '205', '68.33', 'C'],
 ['109', 'Umair', '35', '83', '89', '207', '69.0', 'C'],
 ['110', 'Fizzah', '36', '81', '97', '214', '71.33', 'B'],
 ['111', 'Zahra', '49', '90', '94', '233', '77.67', 'B'],
 ['112', 'Fatima', '45', '88', '99', '232', '77.33', 'B'],
 ['113', 'Tooba', '43', '80', '93', '216', '72.0', 'B'],
 ['114', 'Saad', '42', '90', '77', '209', '69.67', 'C'],
 ['115', 'Azher', '41', '93', '98', '232', '77.33', 'B'],
 ['116', 'Danial', '34', '82', '87', '203', '67.67', 'C'],
 ['117', 'kaiser', '45', '91', '86', '222', '74.0', 'B'],
 ['118', 'Jibran', '46', '77', '78', '201', '67.0', 'C'],
 ['119', 'Maria', '43', '69', '94', '206', '68.67', 'C'],
 ['120', 'Amna', '38', '89', '91', '218', '72.67', 'B'],
 ['121', 'Noreen', '37', '98', '90', '225', '75.0', 'B']]
```

In [29]:
```
def grades():
    freq = {}
    for i in data:
        if i[7] not in freq:
            freq[i[7]] = 1
        else:
            freq[i[7]] += 1
    return freq
```

In [30]:
```
grades()
```

Out[30]:
```
{'B': 13, 'C': 7, 'D': 1}
```

In [33]:
```
1 header
```

Out[33]:
```
['Roll No.',
 'Name',
 'Chemistry',
 'Physics',
 'Maths',
 'Obtain Marks',
 'Percentage',
 'Grades']
```

In [ ]:
```
1
```