In [21]:
```
Faculty1 = {
    "name":"Gary",
    "last name":"Ackerman",
    "job title":"Associate Professor and Associate Dean",
    "email":"gackerman@albany.edu",
    "office":"ETEC 350",
    "universities":["University of the Witwatersrand", "Yale University", "Kin
}

Faculty2 = {
    "name":"Brandon",
    "last name":"Behlendorf",
    "job title":"Assistant Professor",
    "email":"bbehlendorf@albany.edu",
    "office":"ETEC 269D",
    "universities":["University of California at San Diego", "Ohio State Unive
}

Faculty3 = {
    "name":"Martha",
    "last name":"Avila",
    "job title":"Informatics Lecturer",
    "email":"mavilamaravilla@albany.edu",
    "office":"ETEC 263F",
    "universities": ["Universidad de las Americas-Puebla", "University of Bolo
}

# Dictionary of Faculty
```

In [20]:
```
users = {
    "Faculty1": {
        "name":"Gary",
        "last name":"Ackerman",
        "job title":"Associate Professor and Associate Dean",
        "email":"gackerman@albany.edu",
        "office":"ETEC 350",
        "universities":["University of the Witwatersrand", "Yale University",
    },
    "Faculty2": {
        "name":"Brandon",
        "last name":"Behlendorf",
        "job title":"Assistant Professor",
        "email":"bbehlendorf@albany.edu",
        "office":"ETEC 269D",
        "universities":["University of California at San Diego", "Ohio State U
    },
    "Faculty3": {
        "name":"Martha",
        "last name":"Avila",
        "job title":"Informatics Lecturer",
        "email":"mavilamaravilla@albany.edu",
        "office":"ETEC 263F",
        "universities": ["Universidad de las Americas-Puebla", "University of
    }
}

# Nested Dictionary
```

In [45]:
```python
# Extracting keys from the 'users' dictionary and sorting them
user_keys = list(users.keys())
user_keys.sort()

# Searches through sorted keys
for user in user_keys:
    print(f"User: {user}")
    details = users[user]

    # Checking each key-value pair
    for key, value in details.items():
        if key == "universities":
            # Displays universities with a bullet point
            print(f"{key.capitalize()}:")
            for uni in value:
                print(f"- {uni}")
        else:
            # Displaying other key-value pairs
            print(f"{key.capitalize()}: {value}")

    # Creates a space between each user
    print()

# Loops Dictionary & Prints Script
```

```
User: Faculty1
Name: Gary
Last name: Ackerman
Job title: Associate Professor and Associate Dean
Email: gackerman@albany.edu
Office: ETEC 350
Universities:
- University of the Witwatersrand
- Yale University
- King's College

User: Faculty2
Name: Brandon
Last name: Behlendorf
Job title: Assistant Professor
Email: bbehlendorf@albany.edu
Office: ETEC 269D
Universities:
- University of California at San Diego
- Ohio State University
- University of Maryland

User: Faculty3
Name: Martha
Last name: Avila
Job title: Informatics Lecturer
Email: mavilamaravilla@albany.edu
Office: ETEC 263F
Universities:
- Universidad de las Americas-Puebla
- University of Bologna
- UAlbany
```

In [24]:
```python
for user, details in users.items():
    last_name = details.get("last name", "")
    office = details.get("office", "")
    if last_name and office:
        print(f"The office of Professor {last_name} is {office}.")

# Retrieves Last Name and Office From Dictionary
```

```
The office of Professor Ackerman is ETEC 350.
The office of Professor Behlendorf is ETEC 269D.
The office of Professor Avila is ETEC 263F.
```

In [25]:
```
asian_countries = [
    "Afghanistan",
    "Armenia",
    "Azerbaijan",
    "Bahrain",
    "Bangladesh",
    "Bhutan",
    "Brunei",
    "Cambodia",
    "China",
    "Cyprus",
    "Georgia",
    "India",
    "Indonesia",
    "Iran",
    "Iraq",
    "Israel",
    "Japan",
    "Jordan",
    "Kazakhstan",
    "Kuwait",
    "Kyrgyzstan",
    "Laos",
    "Lebanon",
    "Malaysia",
    "Maldives",
    "Mongolia",
    "Myanmar",
    "Nepal",
    "North Korea",
    "Oman",
    "Pakistan",
    "Palestine",
    "Philippines",
    "Qatar",
    "Russia",
    "Saudi Arabia",
    "Singapore",
    "South Korea",
    "Sri Lanka",
    "Syria",
    "Taiwan",
    "Tajikistan",
    "Thailand",
    "Timor-Leste",
    "Turkey",
    "Turkmenistan",
    "United Arab Emirates",
    "Uzbekistan",
    "Vietnam",
    "Yemen"
]
```

```
# List of Asian Countries
```

In [28]:
```
asian_capitals = ["Kabul", "Yerevan", "Baku", "Manama", "Dhaka", "Thimphu", "B
                  "Phnom Penh", "Beijing", "Nicosia", "Tbilisi", "New Delhi",
                  "Tehran", "Baghdad", "Jerusalem", "Tokyo", "Amman", "Nur-Sul
                  "Bishkek", "Vientiane", "Beirut", "Kuala Lumpur", "Malé", "U
                  "Naypyidaw", "Kathmandu", "Pyongyang", "Muscat", "Islamabad"
                  "Manila", "Doha", "Moscow", "Riyadh", "Singapore", "Seoul",
                  "Damascus", "Taipei", "Dushanbe", "Bangkok", "Dili", "Ankara
                  "Tashkent", "Hanoi", "Sana'a", ]

# List of Capitals
```

In [34]:
```
for index, (state, capital) in enumerate(zip(asian_countries, asian_capitals),
    print(f"Position {index}: {state} - {capital}")

# Enumerates States and Capitals and Assigns a Position Number
```

```
Position 1: Afghanistan - Kabul
Position 2: Armenia - Yerevan
Position 3: Azerbaijan - Baku
Position 4: Bahrain - Manama
Position 5: Bangladesh - Dhaka
Position 6: Bhutan - Thimphu
Position 7: Brunei - Bandar Seri Begawan
Position 8: Cambodia - Phnom Penh
Position 9: China - Beijing
Position 10: Cyprus - Nicosia
Position 11: Georgia - Tbilisi
Position 12: India - New Delhi
Position 13: Indonesia - Jakarta
Position 14: Iran - Tehran
Position 15: Iraq - Baghdad
Position 16: Israel - Jerusalem
Position 17: Japan - Tokyo
Position 18: Jordan - Amman
Position 19: Kazakhstan - Nur-Sultan
Position 20: Kuwait - Kuwait City
Position 21: Kyrgyzstan - Bishkek
Position 22: Laos - Vientiane
Position 23: Lebanon - Beirut
Position 24: Malaysia - Kuala Lumpur
Position 25: Maldives - Malé
Position 26: Mongolia - Ulaanbaatar
Position 27: Myanmar - Naypyidaw
Position 28: Nepal - Kathmandu
Position 29: North Korea - Pyongyang
Position 30: Oman - Muscat
Position 31: Pakistan - Islamabad
Position 32: Palestine - Ramallah
Position 33: Philippines - Manila
Position 34: Qatar - Doha
Position 35: Russia - Moscow
Position 36: Saudi Arabia - Riyadh
Position 37: Singapore - Singapore
Position 38: South Korea - Seoul
Position 39: Sri Lanka - Colombo
Position 40: Syria - Damascus
Position 41: Taiwan - Taipei
Position 42: Tajikistan - Dushanbe
Position 43: Thailand - Bangkok
Position 44: Timor-Leste - Dili
Position 45: Turkey - Ankara
Position 46: Turkmenistan - Ashgabat
Position 47: United Arab Emirates - Abu Dhabi
Position 48: Uzbekistan - Tashkent
Position 49: Vietnam - Hanoi
Position 50: Yemen - Sana'a
```

In [43]:
```
# Finding country/capitals position on the list and checks each index
# +1 is added as first input is zero so its going to be one off
china_position = asian_countries.index("China") + 1
beijing_position = asian_capitals.index("Beijing") + 1
turkey_position = asian_countries.index("Turkey") + 1
ankara_position = asian_capitals.index("Ankara") + 1

print(f"Position of China: {china_position} - Beijing: {beijing_position}")
print(f"Position of Turkey: {turkey_position} - Ankara: {ankara_position}")
```

```
Position of China: 9 - Beijing: 9
Position of Turkey: 45 - Ankara: 45
```

In [3]:
```
countries = {
    "Afghanistan": "Kabul",
    "Armenia": "Yerevan",
    "Azerbaijan": "Baku",
    "Bahrain": "Manama",
    "Bangladesh": "Dhaka",
    "Bhutan": "Thimphu",
    "Brunei": "Bandar Seri Begawan",
    "Cambodia": "Phnom Penh",
    "China": "Beijing",
    "Cyprus": "Nicosia",
    "Georgia": "Tbilisi",
    "India": "New Delhi",
    "Indonesia": "Jakarta",
    "Iran": "Tehran",
    "Iraq": "Baghdad",
    "Israel": "Jerusalem",
    "Japan": "Tokyo",
    "Jordan": "Amman",
    "Kazakhstan": "Nur-Sultan",
    "Kuwait": "Kuwait City",
    "Kyrgyzstan": "Bishkek",
    "Laos": "Vientiane",
    "Lebanon": "Beirut",
    "Malaysia": "Kuala Lumpur",
    "Maldives": "Malé",
    "Mongolia": "Ulaanbaatar",
    "Myanmar": "Naypyidaw",
    "Nepal": "Kathmandu",
    "North Korea": "Pyongyang",
    "Oman": "Muscat",
    "Pakistan": "Islamabad",
    "Palestine": "Ramallah",
    "Philippines": "Manila",
    "Qatar": "Doha",
    "Russia": "Moscow",
    "Saudi Arabia": "Riyadh",
    "Singapore": "Singapore",
    "South Korea": "Seoul",
    "Sri Lanka": "Colombo",
    "Syria": "Damascus",
    "Taiwan": "Taipei",
    "Tajikistan": "Dushanbe",
    "Thailand": "Bangkok",
    "Timor-Leste": "Dili",
    "Turkey": "Ankara",
    "Turkmenistan": "Ashgabat",
    "United Arab Emirates": "Abu Dhabi",
    "Uzbekistan": "Tashkent",
    "Vietnam": "Hanoi",
    "Yemen": "Sana'a"
}
```

In [9]:
```
for country, capital in countries.items():
    print(f"{country} is the capital of {capital}.")
```

```
Afghanistan is the capital of Kabul.
Armenia is the capital of Yerevan.
Azerbaijan is the capital of Baku.
Bahrain is the capital of Manama.
Bangladesh is the capital of Dhaka.
Bhutan is the capital of Thimphu.
Brunei is the capital of Bandar Seri Begawan.
Cambodia is the capital of Phnom Penh.
China is the capital of Beijing.
Cyprus is the capital of Nicosia.
Georgia is the capital of Tbilisi.
India is the capital of New Delhi.
Indonesia is the capital of Jakarta.
Iran is the capital of Tehran.
Iraq is the capital of Baghdad.
Israel is the capital of Jerusalem.
Japan is the capital of Tokyo.
Jordan is the capital of Amman.
Kazakhstan is the capital of Nur-Sultan.
Kuwait is the capital of Kuwait City.
Kyrgyzstan is the capital of Bishkek.
Laos is the capital of Vientiane.
Lebanon is the capital of Beirut.
Malaysia is the capital of Kuala Lumpur.
Maldives is the capital of Malé.
Mongolia is the capital of Ulaanbaatar.
Myanmar is the capital of Naypyidaw.
Nepal is the capital of Kathmandu.
North Korea is the capital of Pyongyang.
Oman is the capital of Muscat.
Pakistan is the capital of Islamabad.
Palestine is the capital of Ramallah.
Philippines is the capital of Manila.
Qatar is the capital of Doha.
Russia is the capital of Moscow.
Saudi Arabia is the capital of Riyadh.
Singapore is the capital of Singapore.
South Korea is the capital of Seoul.
Sri Lanka is the capital of Colombo.
Syria is the capital of Damascus.
Taiwan is the capital of Taipei.
Tajikistan is the capital of Dushanbe.
Thailand is the capital of Bangkok.
Timor-Leste is the capital of Dili.
Turkey is the capital of Ankara.
Turkmenistan is the capital of Ashgabat.
United Arab Emirates is the capital of Abu Dhabi.
Uzbekistan is the capital of Tashkent.
Vietnam is the capital of Hanoi.
Yemen is the capital of Sana'a.
```

In [21]:
```
emusk = "SpaceX123"
password = input("Enter password: ")

if password == emusk:
    print("Welcome Elon!")
else:
    print("password is incorrect, for more information you can call 1-800 or a
```

```
Enter password: SpaceX123
Welcome Elon!
```

In [61]:
```
grade = int(input("Enter Grade: "))

if 94 <= grade <= 100:
    letter_grade = "A"
elif 89 <= grade <= 93:
    letter_grade = "A-"
elif 85 <= grade <= 88:
    letter_grade = "B+"
elif 82 <= grade <= 84:
    letter_grade = "B"
elif 79 <= grade <= 81:
    letter_grade = "B-"
elif 76 <= grade <= 78:
    letter_grade = "C+"
elif 73 <= grade <= 75:
    letter_grade = "C"
elif 70 <= grade <= 72:
    letter_grade = "C-"
elif 69 <= grade <= 67:
    letter_grade = "D+"
elif 66 <= grade <= 64:
    letter_grade = "D"
elif 60 <= grade <= 63:
    letter_grade = "D-"
else:
    letter_grade = "E"

print(letter_grade)
```

```
Enter Grade: 85
B+
```

In [20]:
```
temp_f = float(input("Input temperature in Farenheit: "))
temp_c = round((temp_f - 32) * 5/9)
print(str(temp_f) + " farenheit is equal to approximately " + str(temp_c) + "
```

```
Input temperature in Farenheit: 72
72.0 farenheit is equal to approximately 22 centigrade.
```

In [21]:
```
temp_c = float(input("Input temperature in Centigrade: "))
temp_f = round((temp_c * 9/5) + 32)
print(str(temp_c) + " centigrade is equal to approximately " + str(temp_f) + "
```

```
Input temperature in Centigrade: 4
4.0 centigrade is equal to approximately 39 farenheit.
```

In [22]:
```
grams = float(input("Input weight in grams: "))
ounces = round(grams / 28.35)
print(str(grams) + " grams is equal to approximately " + str(ounces) + " ounce
```

```
Input weight in grams: 145
145.0 grams is equal to approximately 5 ounces.
```

In [25]:
```
ounces = float(input("Input weight in ounces: "))
grams = round(ounces * 28.35)
print(str(ounces) + " ounces is equal to approximately " + str(grams) + " gram
```

```
Input weight in ounces: 4
4.0 ounces is equal to approximately 113 grams.
```

In [27]:
```
ml = float(input("Input weight in ml: "))
fluid_ounce = round(ml / 29.574)
print(str(ml) + " ml is equal to approximately " + str(fluid_ounce) + " fluid
```

```
Input weight in ml: 49
49.0 ml is equal to approximately 2 fluid ounces.
```

In [30]:
```
fluid_ounce = float(input("Input weight in fluid ounces: "))
ml = round(fluid_ounce * 29.574)
print(str(fluid_ounce) + " fluid ounces is equal to " + str(ml) + " milliliter
```

```
Input weight in fluid ounces: 3
3.0 fluid ounces is equal to 89 milliliters.
```