Create a Python program that can convert between different units of measurement. You can choose one of the following options: - Temperature Converter: Convert between Celsius and Fahrenheit. - Length Converter: Convert between meters and feet. - Weight Converter: Convert between kilograms and pounds.

Solution: Run this below code in python environment

```
def temperature_converter():
    print("Temperature Converter")
    choice = input("Choose conversion:\n1. Celsius to Fahrenheit\n2. Fahrenheit to Celsius\nEnter choice (1/2): ")

    if choice == '1':
        celsius = float(input("Enter temperature in Celsius: "))
        fahrenheit = (celsius * 9/5) + 32
        print(f"{celsius} Celsius is equal to {fahrenheit:.2f} Fahrenheit.")
    elif choice == '2':
        fahrenheit = float(input("Enter temperature in Fahrenheit: "))
        celsius = (fahrenheit - 32) * 5/9
        print(f"{fahrenheit} Fahrenheit is equal to {celsius:.2f} Celsius.")
    else:
        print("Invalid choice. Please enter 1 or 2.")

def length_converter():
    print("Length Converter")
    choice = input("Choose conversion:\n1. Meters to Feet\n2. Feet to Meters\nEnter choice (1/2): ")

    if choice == '1':
        meters = float(input("Enter length in meters: "))
        feet = meters * 3.28084
        print(f"{meters} meters is equal to {feet:.2f} feet.")
    elif choice == '2':
        feet = float(input("Enter length in feet: "))
```

```
        meters = feet / 3.28084
        print(f"{feet} feet is equal to {meters:.2f} meters.")
    else:
        print("Invalid choice. Please enter 1 or 2.")

def weight_converter():
    print("Weight Converter")
    choice = input("Choose conversion:\n1. Kilograms to Pounds\n2. Pounds to Kilograms\nEnter choice (1/2): ")

    if choice == '1':
        kilograms = float(input("Enter weight in kilograms: "))
        pounds = kilograms * 2.20462
        print(f"{kilograms} kilograms is equal to {pounds:.2f} pounds.")
    elif choice == '2':
        pounds = float(input("Enter weight in pounds: "))
        kilograms = pounds / 2.20462
        print(f"{pounds} pounds is equal to {kilograms:.2f} kilograms.")
    else:
        print("Invalid choice. Please enter 1 or 2.")

def main():
    print("Unit Converter")
    print("1. Temperature Converter\n2. Length Converter\n3. Weight Converter")
    conversion_type = input("Enter the number corresponding to the conversion type: ")

    if conversion_type == '1':
        temperature_converter()
    elif conversion_type == '2':
        length_converter()
    elif conversion_type == '3':
```

```
        weight_converter()
    else:
        print("Invalid choice. Please enter 1, 2, or 3.")

if __name__ == "__main__":
    main()
```

2) - Build a currency conversion tool that allows users to convert between different currencies based on real-time exchange rates.

Solution:

```
import requests


class CurrencyConverter:
    def __init__(self, api_key):
        self.api_key = api_key
        self.base_url = "https://open.er-api.com/v6/latest/"

    def get_exchange_rates(self, base_currency):
        url = f"{self.base_url}{base_currency.upper()}"
        params = {"apikey": self.api_key}
        response = requests.get(url, params=params)

        if response.status_code == 200:
            data = response.json()
            rates = data.get("rates", {})
            rates[base_currency.upper()] = 1.0  # Set the base currency rate to 1.0
            return rates
        else:
            print(f"Failed to fetch exchange rates. Status code: {response.status_code}")
            return None
```

```
    def convert_currency(self, amount, from_currency, to_currency):
        exchange_rates = self.get_exchange_rates(from_currency)

        if exchange_rates:
            conversion_rate = exchange_rates.get(to_currency.upper())

            if conversion_rate:
                converted_amount = amount * conversion_rate
                return converted_amount
            else:
                print(f"Conversion rate for {to_currency} not found.")
        return None

def main():
    api_key = ''
```