1.قم بعمل برنامج يحاكي ال interpreter ويتفاعل مع المستخدم بالطريقة التالية

1. إذا أدخل المستخدم سطر ما يقوم بطباعته
2. عند كتابة المستخدم done ينهي البرنامج
3. إذا ضغط المستخدم على Enter يتجاهل السطر
4. عند بداية السطر ب # يتجاهل السطر
5. عند نهاية البرنامج يقوم بطباعة Done

Make a program that imitate the interpreter as it always asks the user for input and do the following:

1. When the user enters a line, it is printed.
2. When the user enters done, the program stops.

3. When the user presses the Enter key, it ignores the line.

4. When the user starts a line with #, it ignores the line.

5. When the program stops, it prints done.

```
> codezilla
codezilla
>
> gouda
gouda
> islam
islam
>
>
> done
Done!
```

{codezi//a}

إذا لم توفق للوصول للحل يمكنك السعي مرة أخرى بمساعدة الخطوات التالية

```python
# loop till the user enters "done"

    # Read the input


    # ignoring blank lines and lines that start with #


    # Check if the input is "done"


    # Print the input

# End of the program
```

```python
while True:
    # Read the input
    line = input('> ')

    # ignoring blank lines and lines that start with #
    if line.startswith('#') or len(line) < 1:
        continue

    # Check if the input is "done"
    if line == 'done':
        break

    # Print the input
    print(line)

# End of the program
print('Done!')
```

2.قم بعمل برنامج يتفاعل مع المستخدم بالطريقة التالية حيث

يتوقع المستخدم رقم عشوائي بين 1 و 100

Make guessing the number game like the following, allowing the user to guess a random number between 1 and 100.

```
Guess the number: 44
Too high, try again
Guess the number: 35
Too low, try again
Guess the number: 37
Too low, try again
Guess the number: 39
Too low, try again
Guess the number: 41
You guessed the number in 5 attempts
```

```python
import random

# generate a random number between 1 and 100
random_number = random.randint(1, 100)

guess = 0
attempts = 0
while guess != random_number:
    guess = int(input("Guess the number: "))
    attempts += 1
    if guess > random_number:
        print("Too high, try again")
    elif guess < random_number:
        print("Too low, try again")

print(f"You guessed the number in {attempts} attempts")
```

3.قم بعمل برنامج يطبع أول رقم من مضاعفات الرقم 7 في
القائمة التالية

Make a program that prints the first multiple of 7 in
the following list.

```
# find the first multiple of 7 in a list of numbers
numbers = [953, 776, 532, 665, 973, 683, 484, 499, 741, 980]
```

```python
# find the first multiple of 7 in a list of numbers
numbers = [953, 776, 532, 665, 973, 683, 484, 499, 741, 980]

i = 0
while i < len(numbers):
    # check if the number is a multiple of 7
    if numbers[i] % 7 == 0:
        print(f"The first multiple of 7 is: {numbers[i]}")
        break
    i += 1
```

{codezi//a}

4.قم بعمل برنامج يحسب متوسط الدرجات التي سيدخلها الطالب
حيث يتفاعل معه بالطريقة التالية

Make a program that calculate the average score of a
student and interact like the following.

```
Enter a score (or type 'done' to exit): 77
Enter a score (or type 'done' to exit): 89
Enter a score (or type 'done' to exit): 94
Enter a score (or type 'done' to exit): 64
Enter a score (or type 'done' to exit): 85
Enter a score (or type 'done' to exit): 76
Enter a score (or type 'done' to exit):
The average of the scores is: 80.83
```

إذا لم توفق للوصول للحل يمكنك السعي مرة أخرى بمساعدة الخطوات التالية

```
# a list to store the scores

    # read the score


    # if the user enters "done" or pressed Enter, then quit the program

    # append the score to the list

# calculate the average
```

```python
# a list to store the scores
scores = []
while True:
    # read the score
    score = input("Enter a score (or type 'done' to exit): ")

    # if the user enters "done" or pressed Enter, then quit the program
    if score == "done" or len(score) == 0:
        break
    scores.append(float(score))

# calculate the average
average = sum(scores) / len(scores)
print(f"The average of the scores is: {average:0.2f}")
```

‏5.قم بعمل برنامج للمتاجر كما في فيديو هذا الدرس، ولكن مع جعله يقوم بطباعة السعر الإجمالي لكل قطعة تم شراؤها مرتبة تنازليا من الأعلى سعرا قبل طباعة اجمالي الطلب كالتالي

Make a store program like the one in the lesson video, with an extra print statement, before the total order coset, showing the total cost for each item in the list in descending order like the following.

```
Enter product name: Panadol
Enter quantity: 3
Enter price: 55
----------
Product: Panadol
Quantity: 3
Price: 55.0
----------
Total item cost: 165.0
------------------------------
Enter product name: Telefast
Enter quantity: 4
Enter price: 72
----------
Product: Telefast
Quantity: 4
Price: 72.0
----------
Total item cost: 288.0
------------------------------
Enter product name:
Thank you for shopping with Codezilla. Have a great day!
Prices in descending order:
Price 1: 288.0
Price 2: 165.0
------------------------------
Total cost: 453.0
```

إذا لم توفق للوصول للحل يمكنك السعي مرة أخرى بمساعدة
الخطوات التالية

```python
# a list to store prices


# Repeat the following steps until the user enters "quit" or press Enter:

    # Read the product name

    # If the user enters "quit", then quit the program

    # Read the quantity

    # Read the price

    # Calculate the total item cost

    # Add the total item cost to the list

    # Print the product name, quantity, price, and total item cost
# Print a thank you message

# Sort the list of prices in descending order and print it


# Calculate the total cost of all items
```

```python
# a list to store prices
prices = []
# Repeat the following steps until the user enters "quit" or press Enter:
while True:
    # Read the product name
    product_name = input("Enter product name: ")

    # If the user enters "quit", then quit the program
    if product_name == "quit" or len(product_name) == 0:
        break

    # Read the quantity
    quantity = int(input("Enter quantity: "))

    # Read the price
    price = float(input("Enter price: "))

    # Calculate the total item cost
    total_item_cost = quantity * price

    # Add the total item cost to the list
    prices.append(total_item_cost)

    # Print the product name, quantity, price, and total item cost
    print('-'*10)
    print(f"Product: {product_name}")
    print(f"Quantity: {quantity}")
    print(f"Price: {price}")
    print('-'*10)
    print(f"Total item cost: {total_item_cost}")
    print('-'*30)

# Print a thank you message
print("Thank you for shopping with Codezilla. Have a great day!")

# Sort the list of prices in descending order and print it
prices.sort(reverse=True)
print("Prices in descending order:")
i = 0
while i < len(prices):
    print(f"Price {i+1}: {prices[i]}")
    i += 1
# Calculate the total cost of all items
print('-'*30)
print(f"Total cost: {sum(prices)}")
```

{ codezilla }

6. قم بعمل برنامج ATM حيث يتيح للمستخدم الخيارات التالية،
ويمكنك وضع رصيد مبدئي بالمبلغ الذي تريد

Make a Simple ATM program like the following.

```
Welcome to the ATM. Please select an option:
1. Check balance
2. Withdraw
3. Deposit
4. Exit

Enter option number: 1
Your balance is: $1000
Welcome to the ATM. Please select an option:
1. Check balance
2. Withdraw
3. Deposit
4. Exit

Enter option number: 2
Enter withdraw amount: 1500
Insufficient balance.
Welcome to the ATM. Please select an option:
1. Check balance
2. Withdraw
3. Deposit
4. Exit

Enter option number: 2
Enter withdraw amount: 600
Withdrawal successful. Your new balance is: $400
```

```
Enter option number: 2
Enter withdraw amount: 600
Withdrawal successful. Your new balance is: $400
Welcome to the ATM. Please select an option:
1. Check balance
2. Withdraw
3. Deposit
4. Exit

Enter option number: 3
Enter deposit amount: 1500
Deposit successful. Your new balance is: $1900
Welcome to the ATM. Please select an option:
1. Check balance
2. Withdraw
3. Deposit
4. Exit

Enter option number: 4
Thank you for using the ATM. Have a great day!
```

```python
message = """Welcome to the ATM. Please select an option:
1. Check balance
2. Withdraw
3. Deposit
4. Exit
"""

balance = 1000

while True:
    # getting the option from the user
    print(message)
    option = int(input("Enter option number: "))

    if option == 1:
        print(f"Your balance is: ${balance}")

    elif option == 2:
        withdraw_amount = int(input("Enter withdraw amount: "))
        if withdraw_amount > balance:
            print("Insufficient balance.")
        else:
            balance -= withdraw_amount
            print(f"Withdrawal successful. Your new balance is: ${balance}")

    elif option == 3:
        deposit_amount = int(input("Enter deposit amount: "))
        balance += deposit_amount
        print(f"Deposit successful. Your new balance is: ${balance}")

    elif option == 4:
        print("Thank you for using the ATM. Have a great day!")
        break

    else:
        print("Invalid option. Please try again.")
```