Day 5

loop in python

In [5]:
```
x = 1
while x <= 5:
    print(x)
    x =x+ 1
```

```
1
2
3
4
5
```

Keep taking user input until they enter "exit"

In [7]:
```
user_input = ""

while user_input.lower() != "exit":  # Convert input to lowercase to handle case
    user_input = input("Enter something (type 'exit' to stop): ")
    if user_input.lower() != "exit":
        print("You entered:", user_input)

print("Program terminated.")
```

```
You entered: swati
You entered: python
You entered: data science
Program terminated.
```

infinite while loop

In [ ]:
```
age = 32
while age > 18:
    print('You can vote')
```

In [ ]:
```
You are tasked with validating user input
for email addresses. Write a Python program
that prompts the user to enter an email address.
Use a while loop to iterate through the input and
check if the email address contains an "@" symbol
and a "." symbol. If the email address does not meet
these criteria, print "Invalid email address format.
Please try again." Otherwise,
print "Email address validation passed
```

In [11]:
```
email = input("Please enter your mail address")
```

```
# Initialize a flag to track validation status
valid_email = False

# Start the loop
while not valid_email:
    # Check if email contains "@" and "."
    if "@" in email and "." in email:
        print("Email address validation passed.")
        valid_email = True
    else:
        print("Invalid email address format. Please try again.")
        email = input("please enter your mail address")
```

```
Invalid email address format. Please try again.
Email address validation passed.
```

In [ ]:

In [13]:
```
def atm_simulation():
    balance = 1000  # Initial balance
    print("Welcome to the ATM Simulator!")
    print(f"Your starting balance is: ${balance}\n")

    while balance > 0:
        print("Options:")
        print("1. Check Balance")
        print("2. Withdraw Money")
        print("3. Exit")
        choice = input("Please select an option (1, 2, or 3): ")

        if choice == '1':
            print(f"Your current balance is: ${balance}\n")
        elif choice == '2':
            try:
                amount = float(input("Enter the amount to withdraw: $"))
                if amount <= 0:
                    print("Please enter a positive amount.\n")
                elif amount > balance:
                    print("Insufficient funds. Please enter a smaller amount.\n"
                else:
                    balance -= amount
                    print(f"Withdrawal successful! Your new balance is: ${balanc
            except ValueError:
                print("Invalid input. Please enter a numerical value.\n")
        elif choice == '3':
            print("Thank you for using the ATM Simulator. Goodbye!")
            break
        else:
            print("Invalid choice. Please select 1, 2, or 3.\n")

    if balance == 0:
        print("Your balance is zero. The session has ended.")

# Run the ATM simulation
atm_simulation()
```

```
Welcome to the ATM Simulator!
Your starting balance is: $1000

Options:
1. Check Balance
2. Withdraw Money
3. Exit
Your current balance is: $1000

Options:
1. Check Balance
2. Withdraw Money
3. Exit
Insufficient funds. Please enter a smaller amount.

Options:
1. Check Balance
2. Withdraw Money
3. Exit
Withdrawal successful! Your new balance is: $500.0

Options:
1. Check Balance
2. Withdraw Money
3. Exit
Your current balance is: $500.0

Options:
1. Check Balance
2. Withdraw Money
3. Exit
Thank you for using the ATM Simulator. Goodbye!
```

for loop

for loop in list

In [16]:
```python
fruits = ['apple', 'banana', 'cherry']
for fruit in fruits:
    print(fruit)
```

```
apple
banana
cherry
```

for loop in string

In [22]:
```python
for letter in 'Python':
    print(letter)
```

```
P
y
t
h
o
n
```

range function

In [27]:
```
for i in range(5):
    print(i)
```

```
0
1
2
3
4
```

In [29]:
```
for i in range(1, 10, 2):
    print(i)
```

```
1
3
5
7
9
```

Using else with for Loops

In [32]:
```
for number in range(1, 4):
    print(number)
else:
    print('Loop completed without break.')
```

```
1
2
3
Loop completed without break.
```

In [36]:
```
# Prompt the user to enter a number
number = int(input("Enter a number to generate its multiplication table: "))

# Print the multiplication table
print(f"Multiplication table of {number}:")
for i in range(1, 11):
    print(f"{number} x {i} = {number * i}")
```

```
Multiplication table of 35:
35 x 1 = 35
35 x 2 = 70
35 x 3 = 105
35 x 4 = 140
35 x 5 = 175
35 x 6 = 210
35 x 7 = 245
35 x 8 = 280
35 x 9 = 315
35 x 10 = 350
```

In [ ]:
```
Write a Python program that iterates over the numbers from 1 to 50. For each num

Print "Fizz" if the number is divisible by 3.
Print "Buzz" if the number is divisible by 5.
Print "FizzBuzz" if the number is divisible by both 3 and 5.
Print the number itself if it is not divisible by either 3 or 5
```

In [40]:
```python
# Iterate over numbers from 1 to 50
for number in range(1, 51):
    # Check if the number is divisible by both 3 and 5
    if number % 3 == 0 and number % 5 == 0:
        print("FizzBuzz")
    # Check if the number is divisible by 3
    elif number % 3 == 0:
        print("Fizz")
    # Check if the number is divisible by 5
    elif number % 5 == 0:
        print("Buzz")
    # If the number is not divisible by 3 or 5
    else:
        print(number)
```

```
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
16
17
Fizz
19
Buzz
Fizz
22
23
Fizz
Buzz
26
Fizz
28
29
FizzBuzz
31
32
Fizz
34
Buzz
Fizz
37
38
Fizz
Buzz
41
Fizz
43
44
FizzBuzz
46
47
Fizz
49
Buzz
```

In [ ]:

```
You are tasked with creating a program to assist
shoppers in calculating their total bill at a grocery store.
The store offers discounts based on the total purchase amount.
Your task is to implement a Python program that takes the price
of each item purchased and calculates the total bill,
including any applicable discounts.

The store offers the following discount rates
based on the total purchase amount:
```

```
If the total purchase amount is $100 or more,
the customer receives a 10% discount.

If the total purchase amount is between $50 and $99.99,
the customer receives a 5% discount.

If the total purchase amount is less than $50,
no discount is applied.

Write a Python program to prompt the user
to enter the prices of the items they purchased.
Use a for loop to iterate through the prices
entered and calculate the subtotal.
Apply the appropriate discount based
on the total purchase amount using if-else statements.
Finally, print out the subtotal, discount amount
(if any), and the total bill after applying the discount.
```

In [1]:
```
num_items = int(input("Enter the number of items purchased: "))
total_price = 0

for i in range(num_items):
    price = float(input(f"Enter the price of item : "))
    total_price = total_price + price
    i=i+1

if total_price >= 100:
    discount = 0.1 * total_price
elif 50 <= total_price < 100:
    discount = 0.05 * total_price
else:
    discount = 0


total_bill = total_price - discount


print("Subtotal", total_price)
print("Discount", discount)
print(f"Total bill",total_bill)
```

```
Subtotal 2100.0
Discount 210.0
Total bill 1890.0
```

In [ ]:
```

```