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BSCS – C204
7OOP

Problem no. 1

Create an n x n Multiplication table using **Nested FOR Loop.** The user must enter the number of rows and columns that will be displayed in the Table.

Sample Output 1

```
How many rows:10
How many cols:10
                Multiplication Table

   1   2   3   4   5   6   7   8   9  10

   2   4   6   8  10  12  14  16  18  20

   3   6   9  12  15  18  21  24  27  30

   4   8  12  16  20  24  28  32  36  40

   5  10  15  20  25  30  35  40  45  50

   6  12  18  24  30  36  42  48  54  60

   7  14  21  28  35  42  49  56  63  70

   8  16  24  32  40  48  56  64  72  80

   9  18  27  36  45  54  63  72  81  90

  10  20  30  40  50  60  70  80  90 100
```

Sample Output 2.

```
How many rows:3
How many cols:5
                Multiplication Table

   1   2   3   4   5

   2   4   6   8  10

   3   6   9  12  15
```

Code:

```
rows = int(input("How many rows: "))
columns = int(input("How many columns: "))

print("************************************")
print("       Multiplication Table")
print("************************************")


for i in range(1, rows + 1):
    for j in range(1, columns + 1):
        print(f"{i * j:4}", end=" ")
    print()
```

Output:

```
C:\Users\COMLAB\PycharmProjects\pythonProje
How many rows: 5
How many columns: 5
************************************
       Multiplication Table
************************************
   1    2    3    4    5
   2    4    6    8   10
   3    6    9   12   15
   4    8   12   16   20
   5   10   15   20   25

Process finished with exit code 0
```

Problem 2:

Problem 2. Create a bank program that will allow the user to perform the ff: Use Functions as necessary

```
**********************
      ABCCDE ATM
**********************
1.Show Balance
2.Deposit
3.Withdraw
4.Exit
**********************
```

```
Enter your choice (1-4): 1
**********************
Your balance is $0.00
**********************
```

```
**********************
Enter your choice (1-4): 2
**********************
Enter an amount to be deposited: 1000
**********************
```

```
Enter your choice (1-4): 1
**********************
Your balance is $1000.00
**********************
```

```
Enter your choice (1-4): 3
**********************
Enter amount to be withdrawn: 250
**********************
```

```
**********************
Enter your choice (1-4): 1
**********************
Your balance is $750.00
**********************
```

Code:

```python
def show_balance(balance):
    print("*******************************")
    print(f"Your balance is ${balance:.2f}")


1 usage
def deposit(balance):
    print("*******************************")
    amount = float(input("Enter an amount to be deposited: "))
    balance += amount
    print("*******************************")
    print(f"Your balance is ${balance:.2f}")
    return balance


1 usage
def withdraw(balance):
    print("*******************************")
    amount = float(input("Enter amount to be withdrawn: "))
    if amount > balance:
        print("*******************************")
        print("Insufficient funds.")
    else:
        balance -= amount
        print("*******************************")
        print(f"Your balance is ${balance:.2f}")
    return balance
```

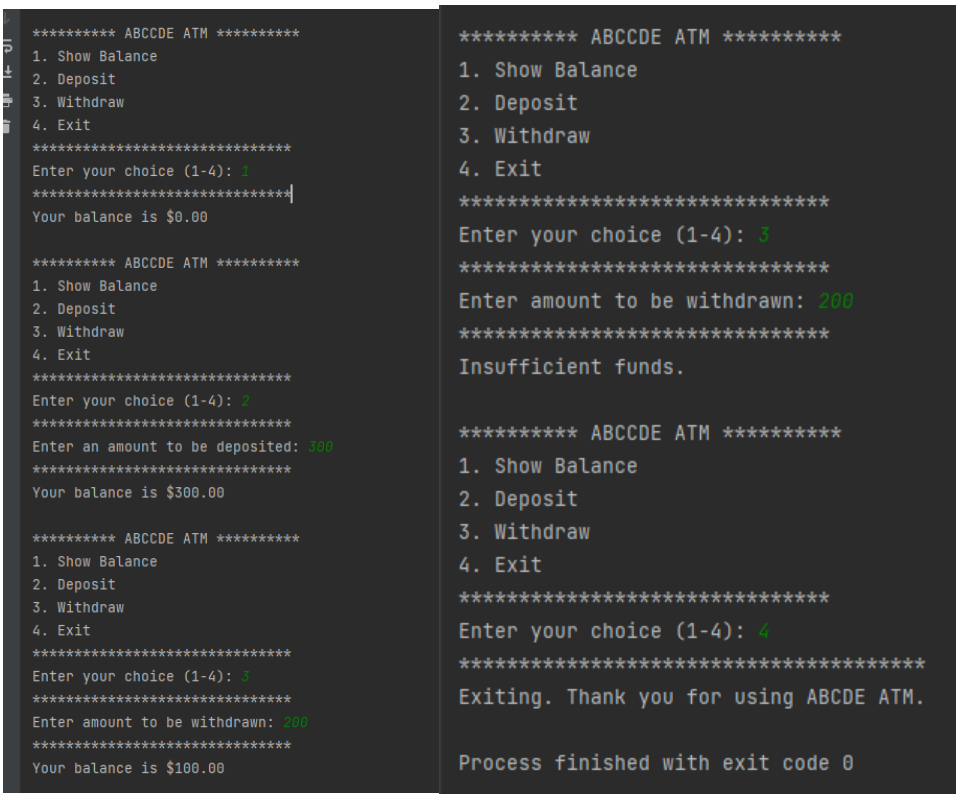
```python
def main():
    balance = 0.0
    while True:
        print("\n********** ABCCDE ATM **********")
        print("1. Show Balance")
        print("2. Deposit")
        print("3. Withdraw")
        print("4. Exit")
        print("*******************************")

        choice = int(input("Enter your choice (1-4): "))

        if choice == 1:
            show_balance(balance)
        elif choice == 2:
            balance = deposit(balance)
        elif choice == 3:
            balance = withdraw(balance)
        elif choice == 4:
            print("*************************************")
            print("Exiting. Thank you for using ABCDE ATM.")
            break
        else:
            print("*******************************")
            print("Invalid choice. Please try again.")


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

Sample Output:



```
********** ABCCDE ATM **********
1. Show Balance
2. Deposit
3. Withdraw
4. Exit
*******************************
Enter your choice (1-4): 1
*******************************
Your balance is $0.00

********** ABCCDE ATM **********
1. Show Balance
2. Deposit
3. Withdraw
4. Exit
*******************************
Enter your choice (1-4): 2
*******************************
Enter an amount to be deposited: 300
*******************************
Your balance is $300.00

********** ABCCDE ATM **********
1. Show Balance
2. Deposit
3. Withdraw
4. Exit
*******************************
Enter your choice (1-4): 3
*******************************
Enter amount to be withdrawn: 200
*******************************
Your balance is $100.00
```

```
********** ABCCDE ATM **********
1. Show Balance
2. Deposit
3. Withdraw
4. Exit
*******************************
Enter your choice (1-4): 3
*******************************
Enter amount to be withdrawn: 200
*******************************
Insufficient funds.

********** ABCCDE ATM **********
1. Show Balance
2. Deposit
3. Withdraw
4. Exit
*******************************
Enter your choice (1-4): 4
***************************************
Exiting. Thank you for using ABCDE ATM.

Process finished with exit code 0
```