

ASSIGNMENT-6.4

NAME:- P LAHARI

BATCH-16

HTNO:-2303A51071

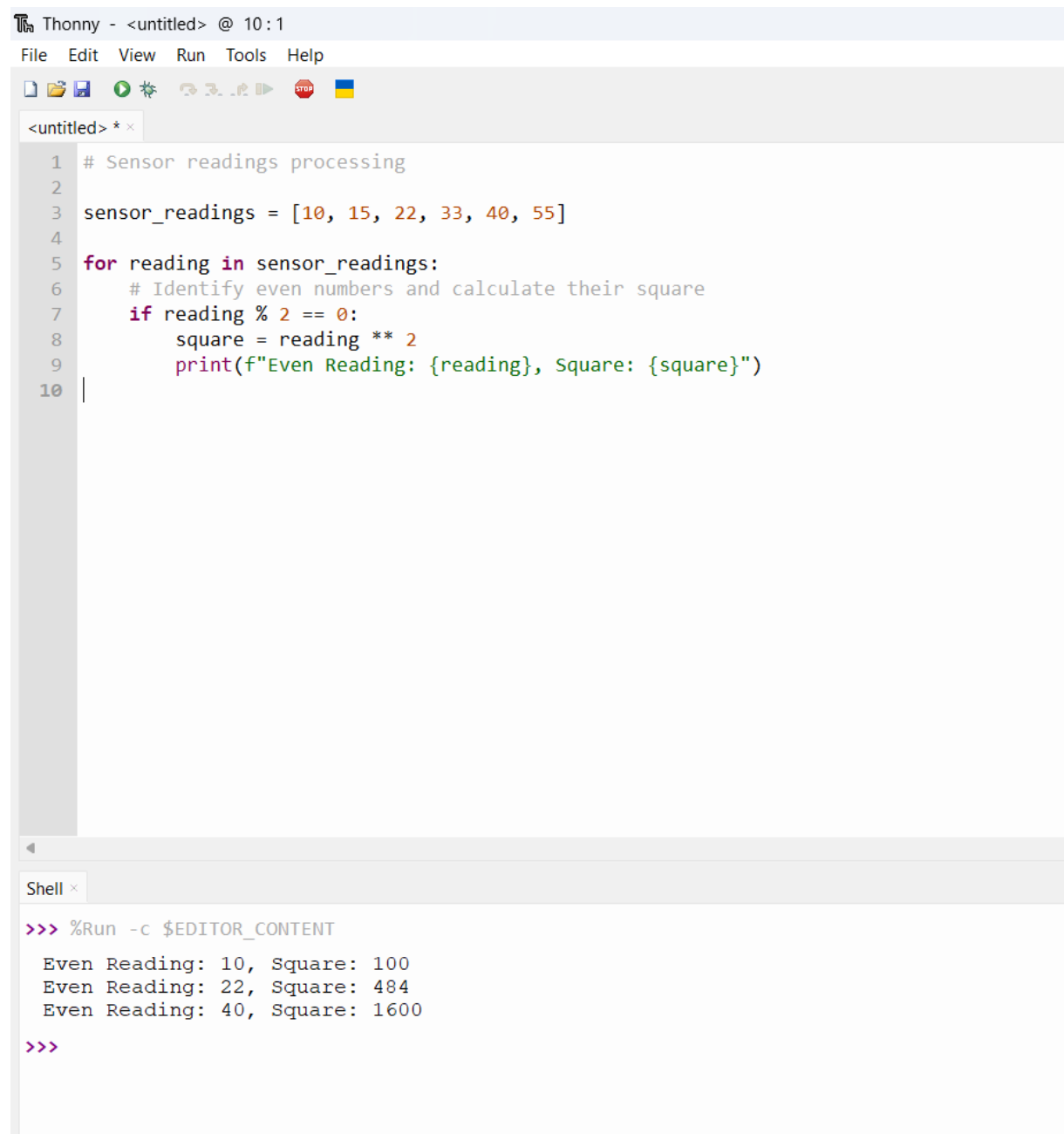
Task 1: Student Performance Evaluation System

```
Thonny - <untitled> @ 26:36
File Edit View Run Tools Help

<untitled> * x
1 # Student class for performance evaluation
2
3 class Student:
4     def __init__(self, name, roll_number, marks):
5         self.name = name
6         self.roll_number = roll_number
7         self.marks = marks
8
9     # Display student details
10    def display_details(self):
11        print("Name:", self.name)
12        print("Roll Number:", self.roll_number)
13        print("Marks:", self.marks)
14
15    # Check performance based on class average
16    def check_performance(self, class_average):
17        if self.marks > class_average:
18            return "Student is performing above average"
19        else:
20            return "Student is performing below average"
21
22
23 # Sample usage
24 student1 = Student("Rohan", "23CS101", 94)
25 student1.display_details()
26 print(student1.check_performance(75))
27

Shell x
>>> %Run -c $EDITOR_CONTENT
Name: Rohan
Roll Number: 23CS101
Marks: 94
Student is performing above average
>>>
```

Task 2: Data Processing in a Monitoring System



The screenshot displays the Thonny Python IDE interface. The top bar shows the application name 'Thonny' and the file name '<untitled>'. Below the menu bar (File, Edit, View, Run, Tools, Help) is a toolbar with icons for file operations and execution. The main editor window, titled '<untitled> *', contains a Python script. The script defines a list of sensor readings and iterates through them to calculate the square of even numbers. The bottom panel, titled 'Shell', shows the command to run the script and its output, which lists the even readings and their corresponding squares.

```
1 # Sensor readings processing
2
3 sensor_readings = [10, 15, 22, 33, 40, 55]
4
5 for reading in sensor_readings:
6     # Identify even numbers and calculate their square
7     if reading % 2 == 0:
8         square = reading ** 2
9         print(f"Even Reading: {reading}, Square: {square}")
10 |
```

```
>>> %Run -c $EDITOR_CONTENT
Even Reading: 10, Square: 100
Even Reading: 22, Square: 484
Even Reading: 40, Square: 1600
>>>
```

Task 3: Banking Transaction Simulation

```
Thonny - <untitled> @ 27:1
File Edit View Run Tools Help

<untitled> * x
1 # BankAccount class for deposit and withdrawal
2
3 class BankAccount:
4     def __init__(self, account_holder, balance):
5         self.account_holder = account_holder
6         self.balance = balance
7
8     # Deposit money
9     def deposit(self, amount):
10        self.balance += amount
11        print(f"Deposited {amount}. New Balance: {self.balance}")
12
13    # Withdraw money with balance check
14    def withdraw(self, amount):
15        if amount <= self.balance:
16            self.balance -= amount
17            print(f"Withdrawn {amount}. Remaining Balance: {self.balance}")
18        else:
19            print("Insufficient balance. Withdrawal not allowed.")
20
21
22 # Sample usage
23 account = BankAccount("Rohan", 5000)
24 account.deposit(2000)
25 account.withdraw(3000)
26 account.withdraw(5000)
27

Shell x
>>> %Run -c $EDITOR_CONTENT
Deposited 2000. New Balance: 7000
Withdrawn 3000. Remaining Balance: 4000
Insufficient balance. Withdrawal not allowed.
>>>
```

Task 4: Student Scholarship Eligibility Check

Thonny - <untitled> @ 17:1

File Edit View Run Tools Help

<untitled> * x

```
1 # List of students with scores
2
3 students = [
4     {"name": "Amit", "score": 80},
5     {"name": "Sneha", "score": 72},
6     {"name": "Kiran", "score": 90},
7     {"name": "Priya", "score": 65}
8 ]
9
10 index = 0
11
12 # While loop to check scholarship eligibility
13 while index < len(students):
14     if students[index]["score"] > 75:
15         print(students[index]["name"], "is eligible for scholarship")
16     index += 1
17 |
```

Shell x

```
>>> %Run -c $EDITOR_CONTENT
Amit is eligible for scholarship
Kiran is eligible for scholarship
>>>
```

Task 5: Online Shopping Cart Module

Thonny - <untitled> @ 36:1

File Edit View Run Tools Help



<untitled> * x

```
10     print(f"{name} added to cart")
11
12     # Remove item from cart
13     def remove_item(self, name):
14         self.items = [item for item in self.items if item["name"] != name]
15         print(f"{name} removed from cart")
16
17     # Calculate total bill with discount
18     def calculate_total(self):
19         total = 0
20         for item in self.items:
21             total += item["price"] * item["quantity"]
22
23         if total > 2000:
24             total *= 0.9 # 10% discount
25
26         return total
27
28
29 # Sample usage
30 cart = ShoppingCart()
31 cart.add_item("Laptop Bag", 1500, 1)
32 cart.add_item("Mouse", 500, 2)
33 cart.remove_item("Mouse")
34
35 print("Total Bill:", cart.calculate_total())
36
```

Shell x

```
>>> %Run -c $EDITOR_CONTENT
Laptop Bag added to cart
Mouse added to cart
Mouse removed from cart
Total Bill: 1500
>>>
```