Python Programs and Explanations

1.Grade Checker

```
# Grade Checker Program

# Taking input from the user

score = int(input("Enter the score: "))

# Using if-else statements to determine grade

if score >= 90:

   grade = "A"

elif score >= 80:

   grade = "B"

elif score >= 70:

   grade = "C"

elif score >= 60:

   grade = "D"

else:

   grade = "F"


# Printing the result

print(f"Grade: {grade}")
```

EXPLANATION

- We take an integer input for the score.
- The if-elif-else chain checks the range of the score and assigns a grade.
- The grade is printed using f-string formatting.

2. Student Grades Dictionary

```
# Student Grades Management

# Initial dictionary

student_grades = {

    "John": "A",

    "Alice": "B",

    "Mike": "C"

}


while True:

    print("\n1. Add New Student")

    print("2. Update Student Grade")

    print("3. Print All Grades")

    print("4. Exit")


    choice = input("Enter your choice: ")


    if choice == "1":

        name = input("Enter student name: ")

        grade = input("Enter student grade: ")

        student_grades[name] = grade

        print(f"{name} added successfully!")


    elif choice == "2":

        name = input("Enter student name to update: ")

        if name in student_grades:

            grade = input("Enter new grade: ")
```

```
            student_grades[name] = grade
            print(f"{name}'s grade updated successfully!")
        else:
            print("Student not found!")

    elif choice == "3":
        print("\n--- Student Grades ---")
        for name, grade in student_grades.items():
            print(f"{name}: {grade}")

    elif choice == "4":
        print("Exiting...")
        break

    else
        print("Invalid choice! Try again.")
```

EXPLANATION

- A dictionary stores student names and grades.
- User can add, update, and view grades.
- We use while True loop for a menu system, and dictionary operations (student_grades[name] = grade) to modify data.

3. Write to a File

```
# Writing to a file
# Opening file in write mode
with open("example.txt", "w") as file:
    file.write("Hello, this is a sample text file.\n")
    file.write("This file is created using Python.\n")
print("Data written to 'example.txt' successfully.")
```

Explanation:

- open("filename", "w") opens a file in write mode.
- write() adds content to the file.
- with open(...) as file: ensures the file is automatically closed after writing.

4. Read from a File

```
# Reading from a file

# Opening file in read mode

with open("example.txt", "r") as file:

    content = file.read()

print("--- File Content ---")

print(content)
```

Explanation:

- open("filename", "r") opens a file in read mode.
- read() retrieves the content.
- The program prints the file content to the console.

SCREENSHOTS

student_grades.py

C: > Users > Mohds > student_grades.py > ...

```python
# Student Grades Management

# Initial dictionary
student_grades = {
    "John": "A",
    "Alice": "B",
    "Mike": "C"
}

while True:
    print("\n1. Add New Student")
    print("2. Update Student Grade")
    print("3. Print All Grades")
    print("4. Exit")

    choice = input("Enter your choice: ")

    if choice == "1":
        name = input("Enter student name: ")
        grade = input("Enter student grade: ")
        student_grades[name] = grade
        print(f"{name} added successfully!")

    elif choice == "2":
        name = input("Enter student name to update: ")
        if name in student_grades:
            grade = input("Enter new grade: ")
            student_grades[name] = grade
            print(f"{name}'s grade updated successfully!")
        else:
            print("Student not found!")

    elif choice == "3":
        print("\n--- Student Grades ---")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
2. Update Student Grade
3. Print All Grades
4. Exit
Enter your choice: 3

--- Student Grades ---
John: A
Alice: B
Mike: C
sahal: c

1. Add New Student
2. Update Student Grade
```

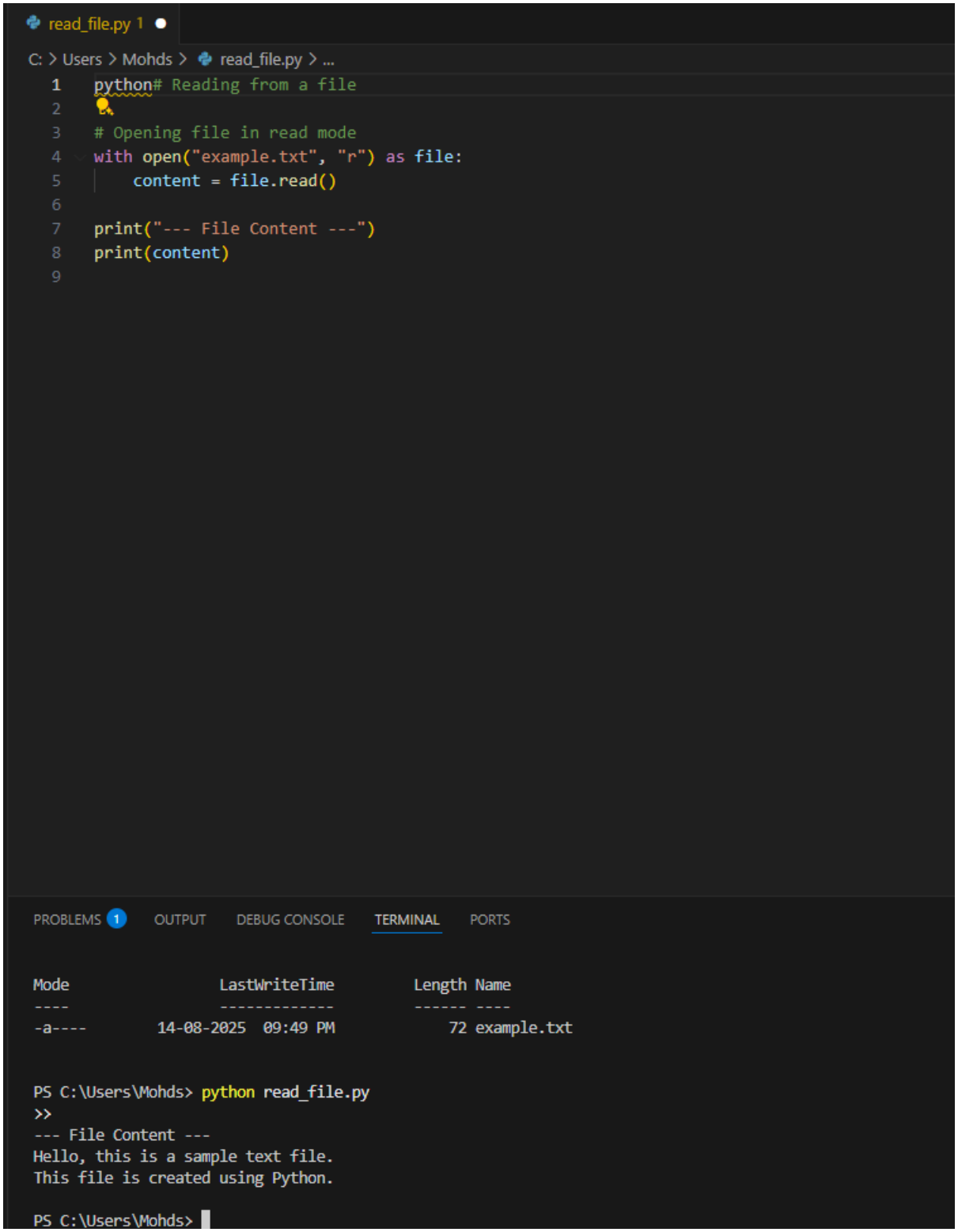
grade_checker.py

C: > Users > Mohds > grade_checker.py > ...

```python
# Grade Checker Program

# Taking input from the user
score = int(input("Enter the score: "))

# Using if-else statements to determine grade
if score >= 90:
    grade = "A"
elif score >= 80:
    grade = "B"
elif score >= 70:
    grade = "C"
elif score >= 60:
    grade = "D"
else:
    grade = "F"

# Printing the result
print(f"Grade: {grade}")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\Mohds> pythom read C:\Users\Mohds\grade_checker.py
pythom : The term 'pythom' is not recognized as the name of a cmdlet, function, script file, or
At line:1 char:1
+ pythom read C:\Users\Mohds\grade_checker.py
+ ~~~~~~
    + CategoryInfo          : ObjectNotFound: (pythom:String) [], CommandNotFoundException
    + FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\Mohds> python grade_checker.py
>>
Enter the score: 50
Grade: F
PS C:\Users\Mohds>
```


read_file.py 1
C: > Users > Mohds > read_file.py > ...
1 python# Reading from a file
2
3 # Opening file in read mode
4 with open("example.txt", "r") as file:
5 content = file.read()
6
7 print("--- File Content ---")
8 print(content)
9
PROBLEMS 1
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Mode LastWriteTime Length Name
---- ------------- ------ ----
-a---- 14-08-2025 09:49 PM 72 example.txt
PS C:\Users\Mohds> python read_file.py
>>
--- File Content ---
Hello, this is a sample text file.
This file is created using Python.
PS C:\Users\Mohds>

write_file.py

C: > Users > Mohds > write_file.py > ...

```python
# Writing to a file

# Opening file in write mode
with open("example.txt", "w") as file:
    file.write("Hello, this is a sample text file.\n")
    file.write("This file is created using Python.\n")

print("Data written to 'example.txt' successfully.")

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
write_file.py : The term 'write_file.py' is not recognized as the name of a cmdlet, function, script file
At line:2 char:1
+ write_file.py
+ ~~~~~~~~~~~~~
    + CategoryInfo          : ObjectNotFound: (write_file.py:String) [], CommandNotFoundException
    + FullyQualifiedErrorId : CommandNotFoundException


Suggestion [3,General]: The command write_file.py was not found, but does exist in the current location.
ut_Command_Precedence" for more details.
PS C:\Users\Mohds> python write_file.py
Data written to 'example.txt' successfully.
PS C:\Users\Mohds>
```

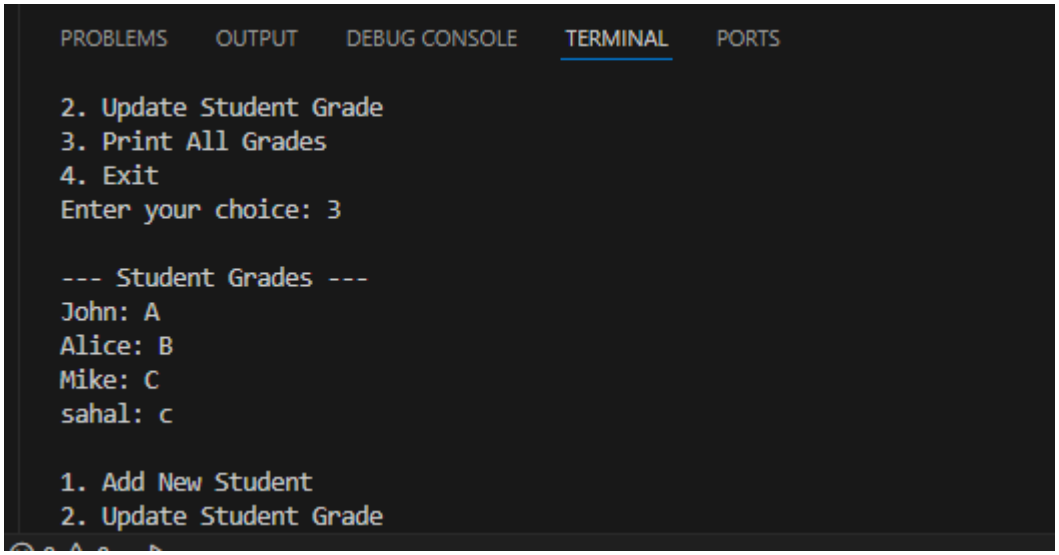
student_grades.py

C: > Users > Mohds > student_grades.py > ...

```python
# Student Grades Management

# Initial dictionary
student_grades = {
    "John": "A",
    "Alice": "B",
    "Mike": "C"
}

while True:
    print("\n1. Add New Student")
    print("2. Update Student Grade")
    print("3. Print All Grades")
    print("4. Exit")

    choice = input("Enter your choice: ")

    if choice == "1":
        name = input("Enter student name: ")
        grade = input("Enter student grade: ")
        student_grades[name] = grade
        print(f"{name} added successfully!")

    elif choice == "2":
        name = input("Enter student name to update: ")
        if name in student_grades:
            grade = input("Enter new grade: ")
            student_grades[name] = grade
            print(f"{name}'s grade updated successfully!")
        else:
            print("Student not found!")

    elif choice == "3":
        print("\n--- Student Grades ---")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\Mohds> python write_file.py
Data written to 'example.txt' successfully.
PS C:\Users\Mohds> python student_grades.py

1. Add New Student
2. Update Student Grade
3. Print All Grades
4. Exit
Enter your choice: 1
Enter student name: sahal
Enter student grade: A
sahal added successfully!
```


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
2. Update Student Grade
3. Print All Grades
4. Exit
Enter your choice: 3
--- Student Grades ---
John: A
Alice: B
Mike: C
sahal: c
1. Add New Student
2. Update Student Grade