

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 X

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

```
1  # Student Grades Management
2
3  # Initial dictionary
4  student_grades = {
5      "John": "A",
6      "Alice": "B",
7      "Mike": "C"
8  }
9
10 while True:
11     print("\n1. Add New Student")
12     print("2. Update Student Grade")
13     print("3. Print All Grades")
14     print("4. Exit")
15
16     choice = input("Enter your choice: ")
17
18     if choice == "1":
19         name = input("Enter student name: ")
20         grade = input("Enter student grade: ")
21         student_grades[name] = grade
22         print(f"{name} added successfully!")
23
24     elif choice == "2":
25         name = input("Enter student name to update: ")
26         if name in student_grades:
27             grade = input("Enter new grade: ")
28             student_grades[name] = grade
29             print(f"{name}'s grade updated successfully!")
30         else:
31             print("Student not found!")
32
33     elif choice == "3":
34         print("\n--- Student Grades ---")
35         for name, grade in student_grades.items():
36             print(f"{name}: {grade}")
37         print("\n")
38     elif choice == "4":
39         break
```

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 X

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

```
1  # Grade Checker Program
2
3  # Taking input from the user
4  score = int(input("Enter the score: "))
5
6  # Using if-else statements to determine grade
7  if score >= 90:
8      grade = "A"
9  elif score >= 80:
10     grade = "B"
11 elif score >= 70:
12     grade = "C"
13 elif score >= 60:
14     grade = "D"
15 else:
16     grade = "F"
17
18 # Printing the result
19 print(f"Grade: {grade}")
20
```

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 X

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

```
1  # Writing to a file
2
3  # Opening file in write mode
4  with open("example.txt", "w") as file:
5      file.write("Hello, this is a sample text file.\n")
6      file.write("This file is created using Python.\n")
7
8  print("Data written to 'example.txt' successfully.")
9
```

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, or executable program.

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. See "Get-Command -Parameter CommandPrecedence" for more details.

PS C:\Users\Mohds> python write_file.py

Data written to 'example.txt' successfully.

PS C:\Users\Mohds>

student_grades.py X

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

```
1  # Student Grades Management
2
3  # Initial dictionary
4  student_grades = {
5      "John": "A",
6      "Alice": "B",
7      "Mike": "C"
8  }
9
10 while True:
11     print("\n1. Add New Student")
12     print("2. Update Student Grade")
13     print("3. Print All Grades")
14     print("4. Exit")
15
16     choice = input("Enter your choice: ")
17
18     if choice == "1":
19         name = input("Enter student name: ")
20         grade = input("Enter student grade: ")
21         student_grades[name] = grade
22         print(f"{name} added successfully!")
23
24     elif choice == "2":
25         name = input("Enter student name to update: ")
26         if name in student_grades:
27             grade = input("Enter new grade: ")
28             student_grades[name] = grade
29             print(f"{name}'s grade updated successfully!")
30         else:
31             print("Student not found!")
32
33     elif choice == "3":
34         print("\n--- Student Grades ---")
35     else:
36         print("Invalid choice. Please try again.")
37         continue
38     break
```

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