PRACTICAL NO. 4

Aim: Write a Python program to create a module

Theory: **Python Module** is a file that contains built-in functions, classes,**its** and variables. There are many **Python modules**, each with its specific work.
A **Python** module is a file containing Python definitions and statements. A module can define functions, classes, and variables. A module can also include runnable code.

Grouping related code into a module makes the code easier to understand and use. It also makes the code logically organized.

Create a Python Module
To create a Python module, write the desired code and save that in a file with **.py** extension.

Program:

Create the module file

```
# percentage.py

# A module to calculate percentage and grade

%%writefile percentage.py

def calculate_percentage(marks, total):

    """Return percentage of marks out of total."""

    return (marks / total) * 100


def get_grade(percentage):

    """Return grade based on percentage."""

    if percentage >= 90:

        return "A+"

    elif percentage >= 75:

        return "A"

    elif percentage >= 60:

        return "B"
```

```
    elif percentage >= 40:
        return "C"
    else:
        return "Fail"
%%writefile main.py
import percentage

marks_obtained = float(input("Enter marks obtained: "))
total_marks = float(input("Enter total marks: "))

per = percentage.calculate_percentage(marks_obtained, total_marks)
grade = percentage.get_grade(per)

print("Percentage:", round(per, 2), "%")
print("Grade:", grade)
#Now run the program in Jupyter:
!python main.py
```

Output:

Enter marks obtained: 450

Enter total marks: 500

Percentage: 90.0 %

Grade: A+

Result: Hence, we successfully created a module in python.