Artificial-Intelligence

Lab:4

CS-6

Task 4:

Create multiple objects in a single class.

```
class Students:
    def __init__(self, name, gender, id):
        self.name = name
        self.gender = gender
        self.id = id


p1 = Students("Ahmed", "male", 23)
print(p1.name, p1.gender, p1.id)

p2 = Students("Sara", "female", 12)
print(p2.name, p2.gender, p2.id)
```

```
Ahmed male 23
Sara female 12
```

Task:2:

Define a function that accepts roll number and returns whether the student is present or absent.

```python
def function(roll_number, rollNumbers):
    return roll_number in rollNumbers

rollNumbers = [40851, 40852, 40853, 40854, 40855]
check = 40852

if function(check, rollNumbers):
    print(f"Student with roll number {check} is present.")
else:
    print(f"Student with roll number {check} is absent.")
```

```
Student with roll number 40852 is present.
```

Task 1:

Write a Python function to sum all the numbers in a list.
Sample List : [7, 5, 3, 0, 2]

```python
List = [7, 5, 3, 0, 2]


def Sumfunction(Input_List):
    total = 0
    for num in Input_List:
        total += num
    return total


result = Sumfunction(List)
print("The sum of the list is:", result)
```

```
The sum of the list is: 17
```

Task 3:

Define a class and create object of class, access attributes and assign new values.

```
class Student:
    def __init__(self, name, id):
        self.name = name
        self.id = id

student1 = Student("Alisha", 11)

print(f"Name: {student1.name}")
print(f"Id : {student1.id}")

student1.name = "Ayesha"
student1.id = 12

print(f"Updated Name: {student1.name}")
print(f"Updated Id : {student1.id}")
```

```
Name: Alisha
Id : 11
Updated Name: Ayesha
Updated Id : 12
```

Task 5:

Create a student class with attributes name, age, and grades (list). Add a method average grade that calculates and returns the average of the grades.

```
class Student:     def _init_(self,
name, age, grades):
        self.name = name
self.age = age
self.grades = grades
     def average(self):
if not self.grades:
            return 0         return
sum(self.grades) / len(self.grades)
 s1 = Student("Maryam", 22, [85, 90, 78,
92]) s2 = Student("Shiza", 20, [88, 76, 95])
s3 = Student("Aliza", 24, [70, 80, 90, 100])
 print(f"{s1.name}'s average grade:
{s1.average()}") print(f"{s2.name}'s average grade:
{s2.average()}") print(f"{s3.name}'s average grade:
{s3.average()}")
```