1.Function Definition:

class EmployeeCollection:

def \_\_init\_\_(self):

self.collections = {}

def createCollection(self, p\_collection\_name):

if p\_collection\_name not in self.collections:

self.collections[p\_collection\_name] = []

print(f"Collection '{p\_collection\_name}' created.")

else:

print(f"Collection '{p\_collection\_name}' already exists.")

def indexData(self, p\_collection\_name, p\_exclude\_column):

if p\_collection\_name not in self.collections:

print(f"Collection '{p\_collection\_name}' does not exist.")

return

employees = [

{"id": 1, "name": "Sri", "department": "HR", "age": 30},

{"id": 2, "name": "Hari", "department": "Engineering", "age": 25},

{"id": 3, "name": "Vikki", "department": "HR", "age": 35},

{"id": 4, "name": "Bob", "department": "Engineering", "age": 28},

]

for employee in employees:

if p\_exclude\_column in employee:

del employee[p\_exclude\_column]

self.collections[p\_collection\_name].append(employee)

print(f"Indexed data into '{p\_collection\_name}' excluding '{p\_exclude\_column}'.")

def searchByColumn(self, p\_collection\_name, p\_column\_name, p\_column\_value):

if p\_collection\_name not in self.collections:

print(f"Collection '{p\_collection\_name}' does not exist.")

return []

results = [emp for emp in self.collections[p\_collection\_name] if emp.get(p\_column\_name) == p\_column\_value]

return results

def getEmpCount(self, p\_collection\_name):

if p\_collection\_name not in self.collections:

print(f"Collection '{p\_collection\_name}' does not exist.")

return 0

return len(self.collections[p\_collection\_name])

def delEmpById(self, p\_collection\_name, p\_employee\_id):

if p\_collection\_name not in self.collections:

print(f"Collection '{p\_collection\_name}' does not exist.")

return

self.collections[p\_collection\_name] = [emp for emp in self.collections[p\_collection\_name] if emp['id'] != p\_employee\_id]

print(f"Deleted employee with ID '{p\_employee\_id}' from '{p\_collection\_name}'.")

def getDepFacet(self, p\_collection\_name):

if p\_collection\_name not in self.collections:

print(f"Collection '{p\_collection\_name}' does not exist.")

return {}

department\_count = {}

for emp in self.collections[p\_collection\_name]:

dept = emp.get("department")

if dept in department\_count:

department\_count[dept] += 1

else:

department\_count[dept] = 1

return department\_count

if \_\_name\_\_ == "\_\_main\_\_":

emp\_collection = EmployeeCollection()

emp\_collection.createCollection("employees")

emp\_collection.indexData("employees", "age")

print("Employees in 'employees' collection:", emp\_collection.collections["employees"])

print("Search result:", emp\_collection.searchByColumn("employees", "department", "HR"))

print("Employee count:", emp\_collection.getEmpCount("employees"))

emp\_collection.delEmpById("employees", 2)

print("Employees after deletion:", emp\_collection.collections["employees"])

print("Department facet:", emp\_collection.getDepFacet("employees"))