2.Function Exeuction:

class EmployeeCollection:

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

self.data = {}

def createCollection(self, collection\_name):

if collection\_name not in self.data:

self.data[collection\_name] = []

def getEmpCount(self, collection\_name):

return len(self.data.get(collection\_name, []))

def indexData(self, collection\_name, value):

if collection\_name in self.data:

self.data[collection\_name].append(value)

def delEmpById(self, collection\_name, emp\_id):

if collection\_name in self.data:

self.data[collection\_name] = [emp for emp in self.data[collection\_name] if emp != emp\_id]

def searchByColumn(self, collection\_name, column\_name, search\_value):

if collection\_name in self.data:

return [emp for emp in self.data[collection\_name] if column\_name in emp and emp[column\_name] == search\_value]

return []

def getDepFacet(self, collection\_name):

if collection\_name in self.data:

return list(set(emp['Department'] for emp in self.data[collection\_name] if 'Department' in emp))

return []

emp\_collection = EmployeeCollection()

v\_nameCollection = 'Srihari'

v\_phoneCollection = 'Sri\_1122'

emp\_collection.createCollection(v\_nameCollection)

emp\_collection.createCollection(v\_phoneCollection)

print("Employee count in name collection:", emp\_collection.getEmpCount(v\_nameCollection))

emp\_collection.indexData(v\_nameCollection, {'Department': 'IT', 'Gender': 'Male'})

emp\_collection.indexData(v\_phoneCollection, {'Department': 'IT', 'Gender': 'Male'})

emp\_collection.delEmpById(v\_nameCollection, 'E011')

print("Employee count in name collection after deletion:", emp\_collection.getEmpCount(v\_nameCollection))

print("Search by Department (IT):", emp\_collection.searchByColumn(v\_nameCollection, 'Department', 'IT'))

print("Search by Gender (Male):", emp\_collection.searchByColumn(v\_nameCollection, 'Gender', 'Male'))

print("Search by Department in phone collection (IT):", emp\_collection.searchByColumn(v\_phoneCollection, 'Department', 'IT'))

print("Department facet for name collection:", emp\_collection.getDepFacet(v\_nameCollection))

print("Department facet for phone collection:", emp\_collection.getDepFacet(v\_phoneCollection))