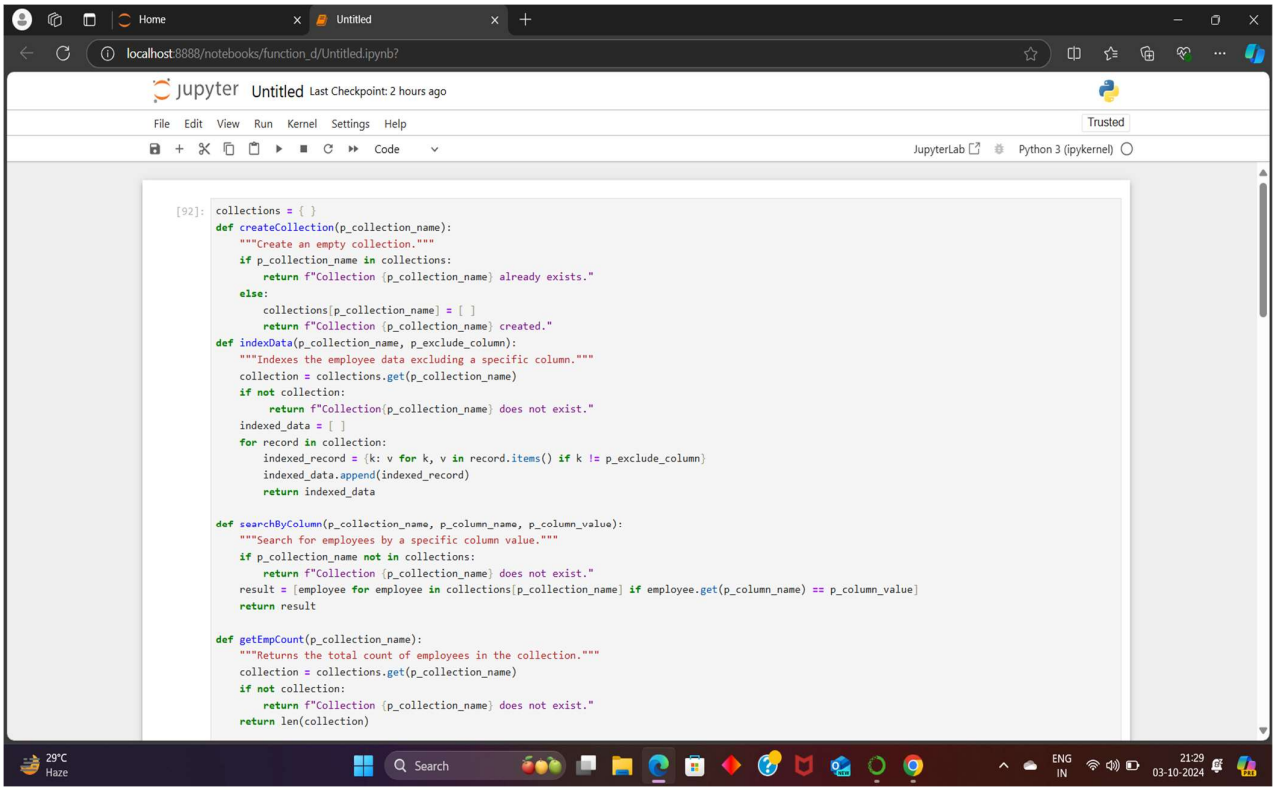
FUNCTION

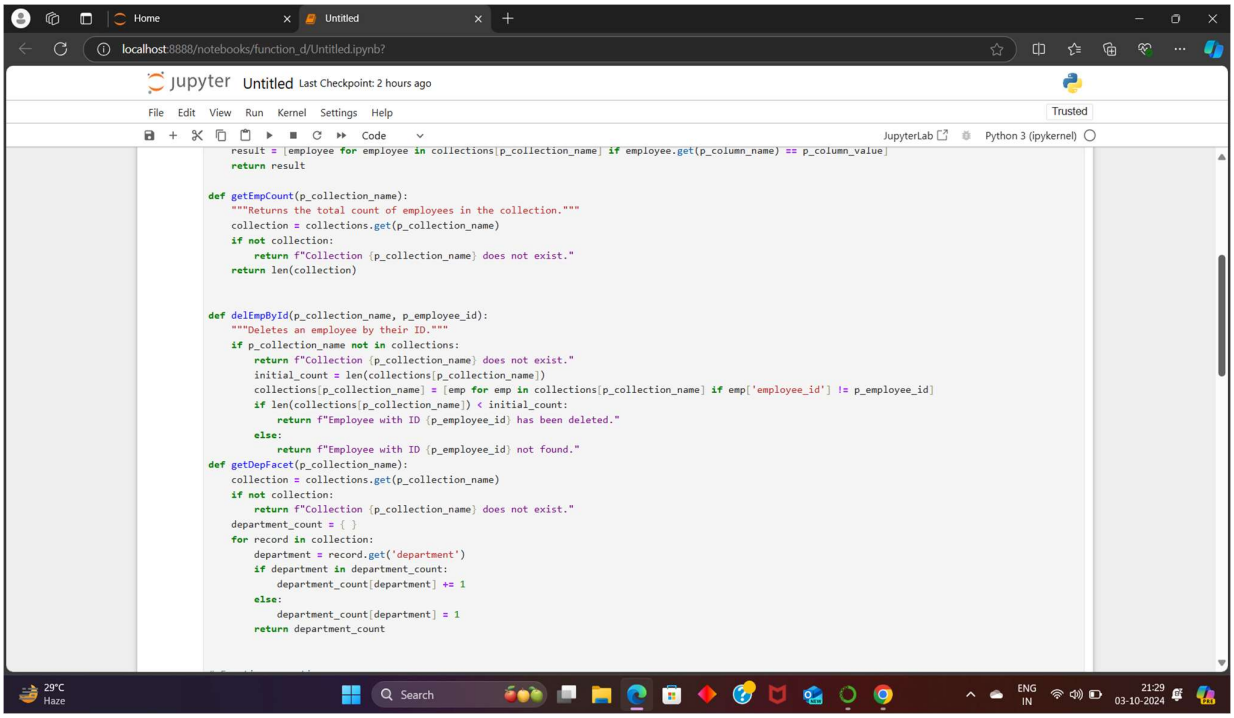
Function definition:

You given some format of functions are:

1. **indexData(p_collection_name, p_exclude_column)**:
   Index the given employee data into the specified collection, excluding the column provided in p_exclude_column.
2. **searchByColumn(p_collection_name, p_column_name, p_column_value)**:
   Search within the specified collection for records where the column p_column_name matches the value p_column_value.
3. **getEmpCount(p_collection_name)**
4. **delEmpById(p_collection_name, p_employee_id)**
5. • **getDepFacet(p_collection_name)**

I have use of this functions and create a python programming language. In that screenshots:

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Code
JupyterLab
Python 3 (ipykernel)
result = [employee for employee in collections[p_collection_name] if employee.get(p_column_name) == p_column_value]
return result
def getEmpCount(p_collection_name):
"""Returns the total count of employees in the collection."""
collection = collections.get(p_collection_name)
if not collection:
return f"Collection {p_collection_name} does not exist."
return len(collection)
def delEmpById(p_collection_name, p_employee_id):
"""Deletes an employee by their ID."""
if p_collection_name not in collections:
return f"Collection {p_collection_name} does not exist."
initial_count = len(collections[p_collection_name])
collections[p_collection_name] = [emp for emp in collections[p_collection_name] if emp['employee_id'] != p_employee_id]
if len(collections[p_collection_name]) < initial_count:
return f"Employee with ID {p_employee_id} has been deleted."
else:
return f"Employee with ID {p_employee_id} not found."
def getDepFacet(p_collection_name):
collection = collections.get(p_collection_name)
if not collection:
return f"Collection {p_collection_name} does not exist."
department_count = { }
for record in collection:
department = record.get('department')
if department in department_count:
department_count[department] += 1
else:
department_count[department] = 1
return department_count
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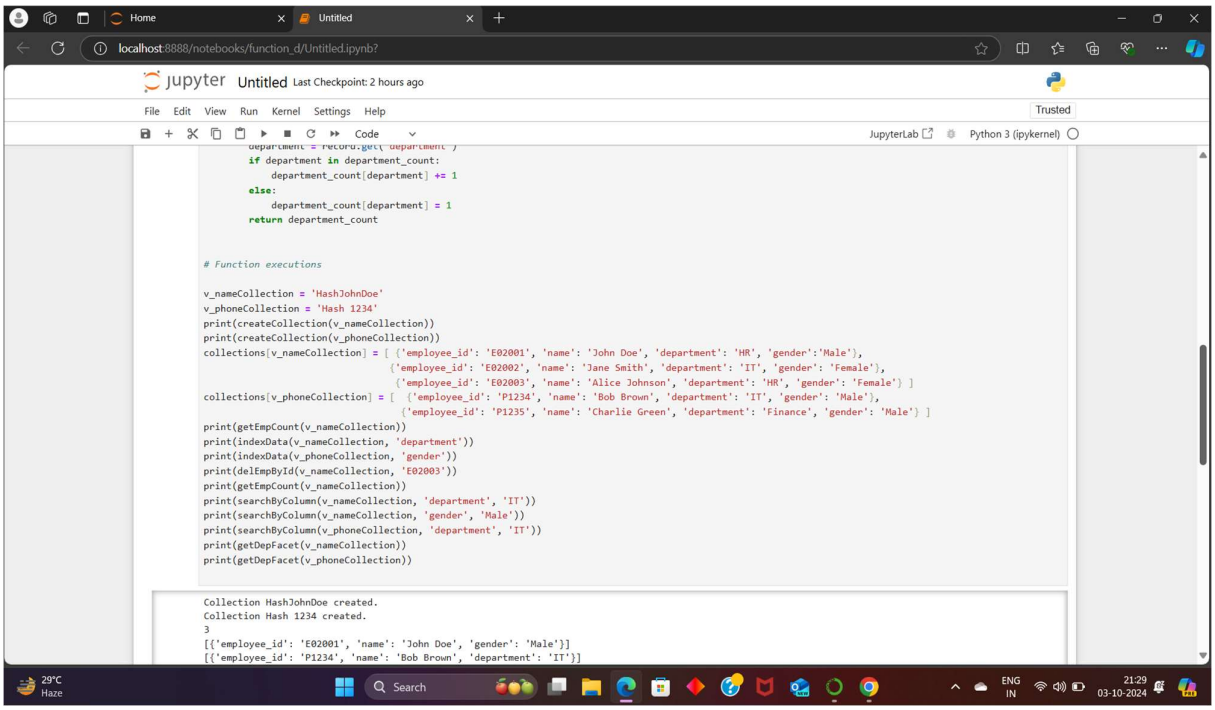
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Code
JupyterLab
Python 3 (ipykernel)
if department in department_count:
department_count[department] += 1
else:
department_count[department] = 1
return department_count
# Function executions
v_nameCollection = 'HashJohnDoe'
v_phoneCollection = 'Hash 1234'
print(createCollection(v_nameCollection))
print(createCollection(v_phoneCollection))
collections[v_nameCollection] = [{'employee_id': 'E02001', 'name': 'John Doe', 'department': 'HR', 'gender':'Male'},
{'employee_id': 'E02002', 'name': 'Jane Smith', 'department': 'IT', 'gender': 'Female'},
{'employee_id': 'E02003', 'name': 'Alice Johnson', 'department': 'HR', 'gender': 'Female'}]
collections[v_phoneCollection] = [{'employee_id': 'P1234', 'name': 'Bob Brown', 'department': 'IT', 'gender': 'Male'},
{'employee_id': 'P1235', 'name': 'Charlie Green', 'department': 'Finance', 'gender': 'Male'}]
print(getEmpCount(v_nameCollection))
print(indexData(v_nameCollection, 'department'))
print(indexData(v_phoneCollection, 'gender'))
print(delEmpById(v_nameCollection, 'E02003'))
print(getEmpCount(v_nameCollection))
print(searchByColumn(v_nameCollection, 'department', 'IT'))
print(searchByColumn(v_nameCollection, 'gender', 'Male'))
print(searchByColumn(v_phoneCollection, 'department', 'IT'))
print(getDepFacet(v_nameCollection))
print(getDepFacet(v_phoneCollection))
Collection HashJohnDoe created.
Collection Hash 1234 created.
3
[{'employee_id': 'E02001', 'name': 'John Doe', 'gender': 'Male'}]
[{'employee_id': 'P1234', 'name': 'Bob Brown', 'department': 'IT'}]
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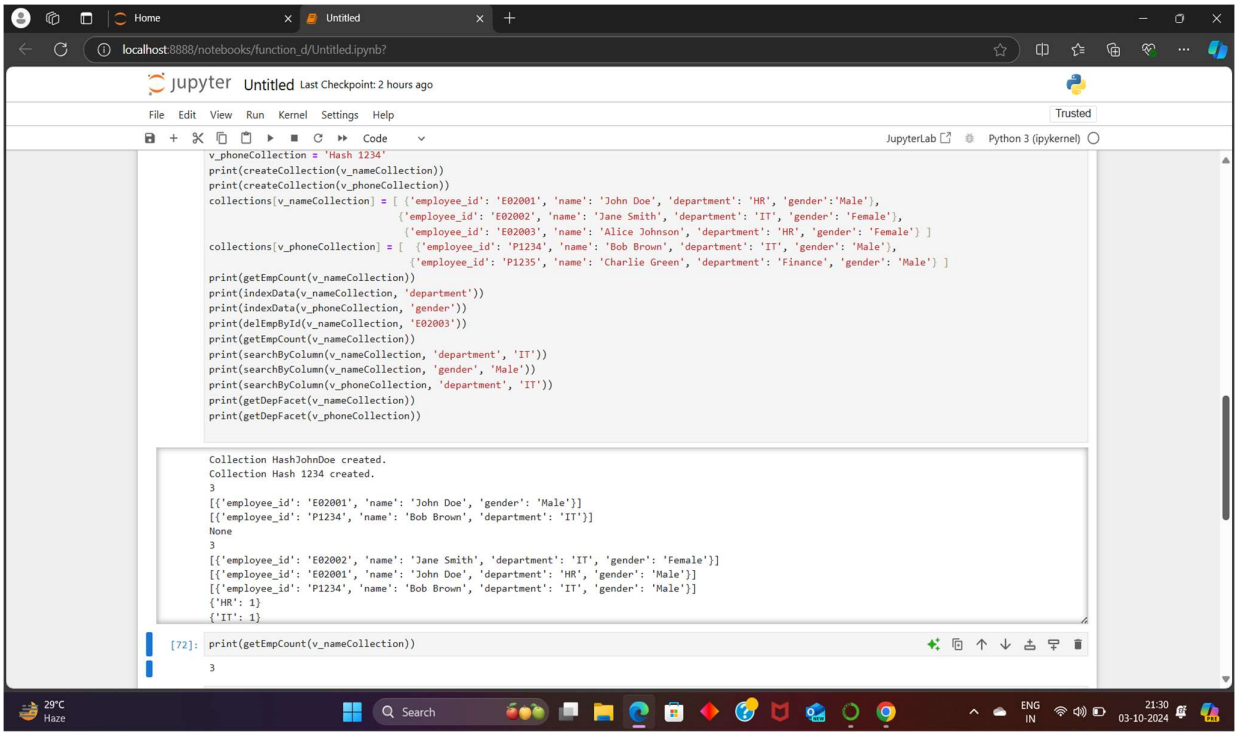
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print(createCollection(v_nameCollection))
print(createCollection(v_phoneCollection))
collections[v_nameCollection] = [{'employee_id': 'E02001', 'name': 'John Doe', 'department': 'HR', 'gender':'Male'},
{'employee_id': 'E02002', 'name': 'Jane Smith', 'department': 'IT', 'gender': 'Female'},
{'employee_id': 'E02003', 'name': 'Alice Johnson', 'department': 'HR', 'gender': 'Female'}]
collections[v_phoneCollection] = [{'employee_id': 'P1234', 'name': 'Bob Brown', 'department': 'IT', 'gender': 'Male'},
{'employee_id': 'P1235', 'name': 'Charlie Green', 'department': 'Finance', 'gender': 'Male'}]
print(getEmpCount(v_nameCollection))
print(indexData(v_nameCollection, 'department'))
print(indexData(v_phoneCollection, 'gender'))
print(delEmpById(v_nameCollection, 'E02003'))
print(getEmpCount(v_nameCollection))
print(searchByColumn(v_nameCollection, 'department', 'IT'))
print(searchByColumn(v_nameCollection, 'gender', 'Male'))
print(searchByColumn(v_phoneCollection, 'department', 'IT'))
print(getDepFacet(v_nameCollection))
print(getDepFacet(v_phoneCollection))
Collection HashJohnDoe created.
Collection Hash 1234 created.
3
[{'employee_id': 'E02001', 'name': 'John Doe', 'gender': 'Male'}]
[{'employee_id': 'P1234', 'name': 'Bob Brown', 'department': 'IT'}]
None
3
[{'employee_id': 'E02002', 'name': 'Jane Smith', 'department': 'IT', 'gender': 'Female'}]
[{'employee_id': 'E02001', 'name': 'John Doe', 'department': 'HR', 'gender': 'Male'}]
[{'employee_id': 'P1234', 'name': 'Bob Brown', 'department': 'IT', 'gender': 'Male'}]
{'HR': 1}
{'IT': 1}
[72]: print(getEmpCount(v_nameCollection))
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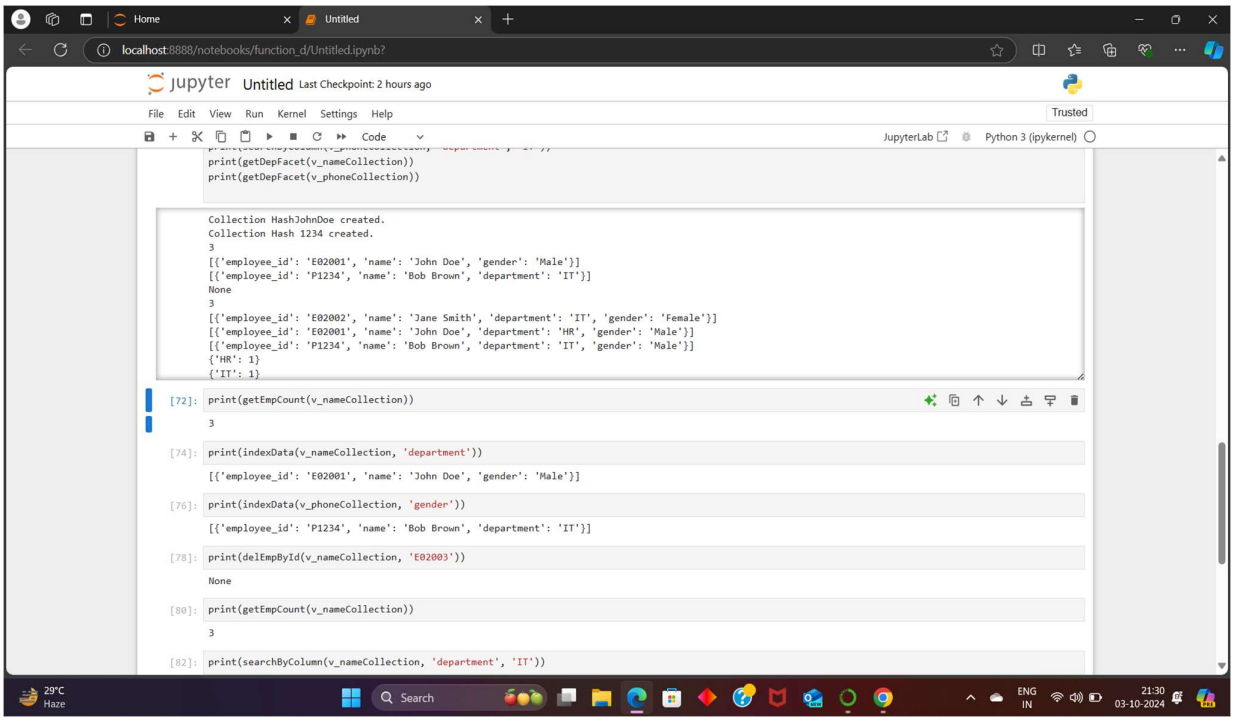
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Collection HashJohnDoe created.
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[{'employee_id': 'E02001', 'name': 'John Doe', 'gender': 'Male'}]
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None
3
[{'employee_id': 'E02002', 'name': 'Jane Smith', 'department': 'IT', 'gender': 'Female'}]
[{'employee_id': 'E02001', 'name': 'John Doe', 'department': 'HR', 'gender': 'Male'}]
[{'employee_id': 'P1234', 'name': 'Bob Brown', 'department': 'IT', 'gender': 'Male'}]
{'HR': 1}
{'IT': 1}
[72]: print(getEmpCount(v_nameCollection))
3
[74]: print(indexData(v_nameCollection, 'department'))
[{'employee_id': 'E02001', 'name': 'John Doe', 'gender': 'Male'}]
[76]: print(indexData(v_phoneCollection, 'gender'))
[{'employee_id': 'P1234', 'name': 'Bob Brown', 'department': 'IT'}]
[78]: print(delEmpById(v_nameCollection, 'E02003'))
None
[80]: print(getEmpCount(v_nameCollection))
3
[82]: print(searchByColumn(v_nameCollection, 'department', 'IT'))
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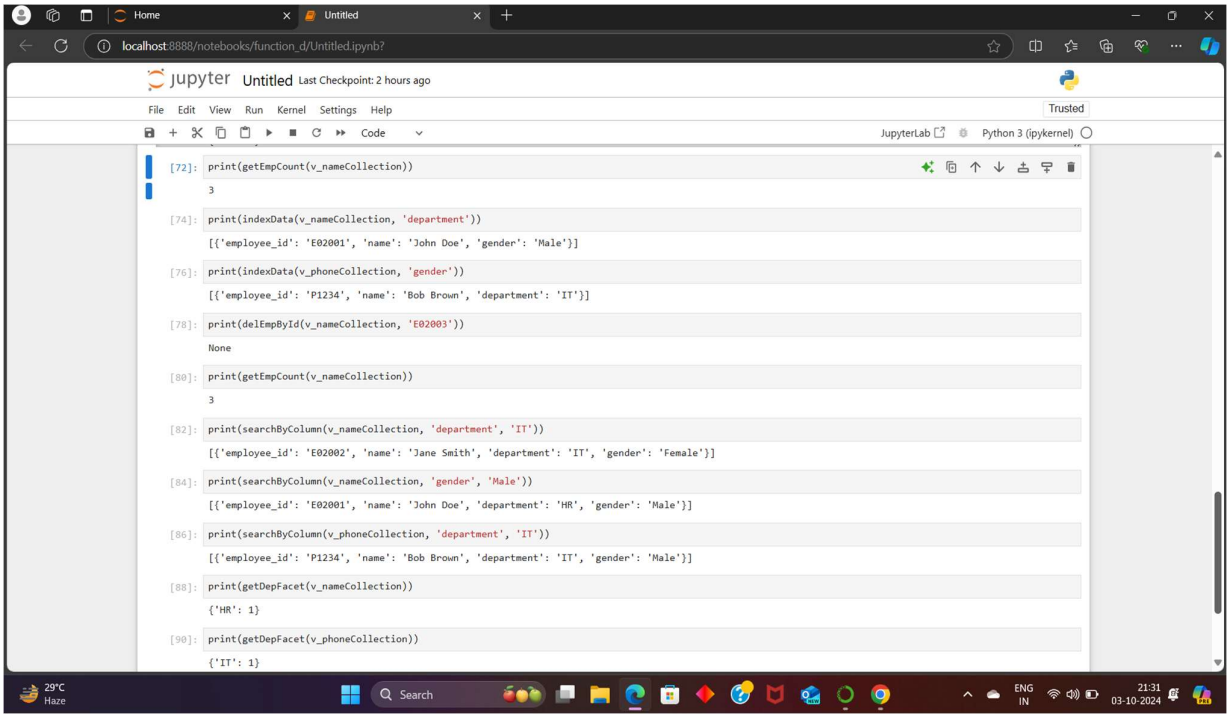
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[{'employee_id': 'E02002', 'name': 'Jane Smith', 'department': 'IT', 'gender': 'Female'}]
[84]: print(searchByColumn(v_nameCollection, 'gender', 'Male'))
[{'employee_id': 'E02001', 'name': 'John Doe', 'department': 'HR', 'gender': 'Male'}]
[86]: print(searchByColumn(v_phoneCollection, 'department', 'IT'))
[{'employee_id': 'P1234', 'name': 'Bob Brown', 'department': 'IT', 'gender': 'Male'}]
[88]: print(getDepFacet(v_nameCollection))
{'HR': 1}
[90]: print(getDepFacet(v_phoneCollection))
{'IT': 1}
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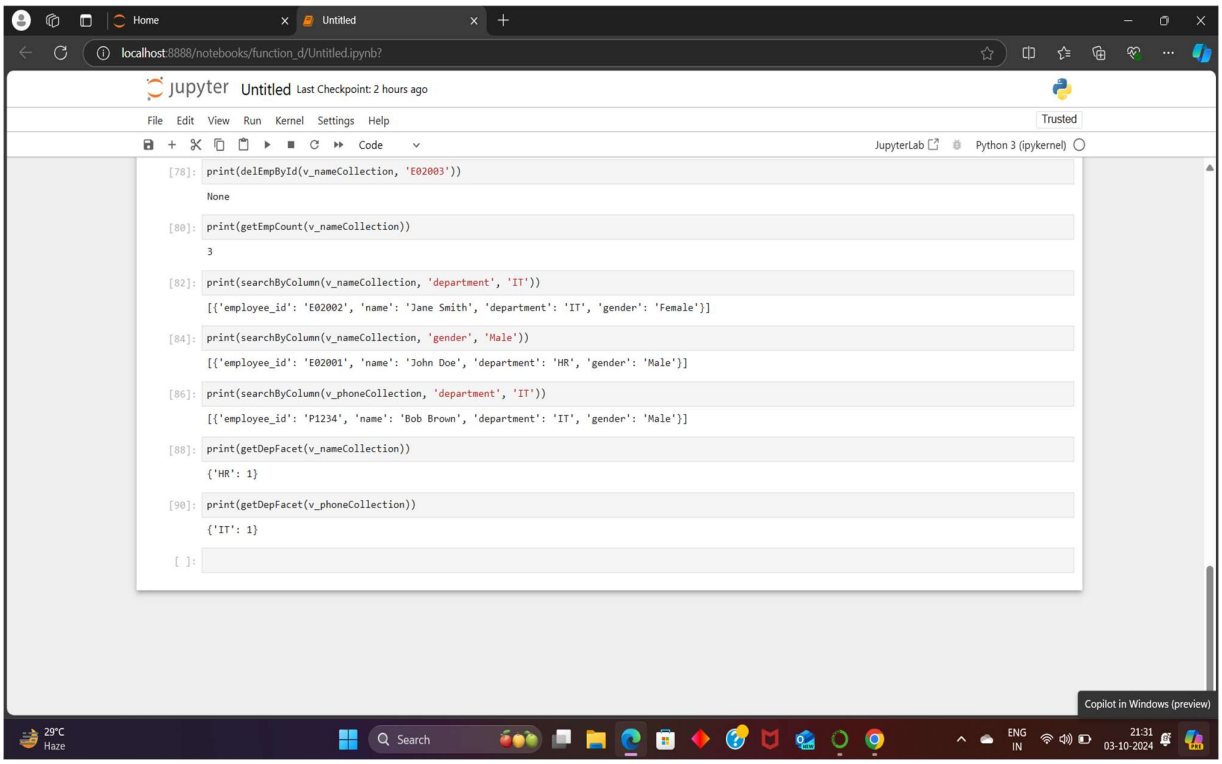
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[82]: print(searchByColumn(v_nameCollection, 'department', 'IT'))
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{'HR': 1}
[90]: print(getDepFacet(v_phoneCollection))
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