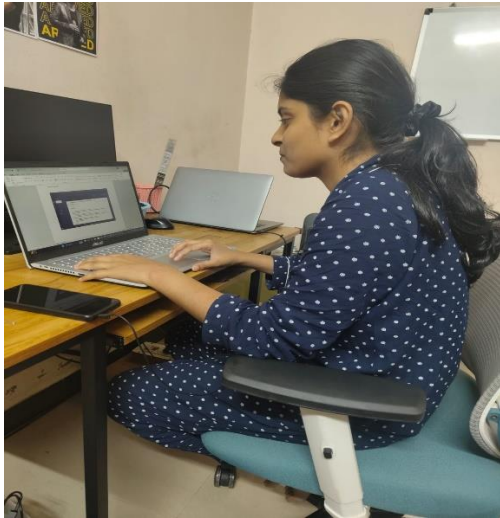


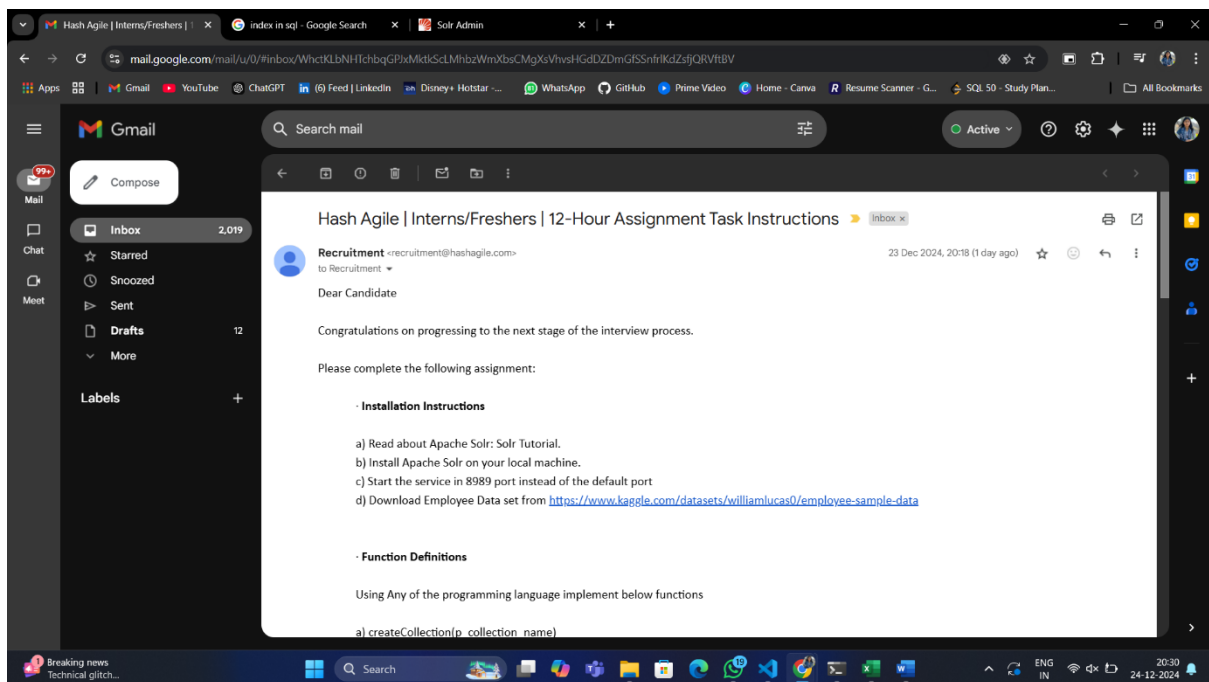
HASH AGILE ASSIGNMENT ROUND 2

FULL NAME:ELAMATHI PREMKUMAR

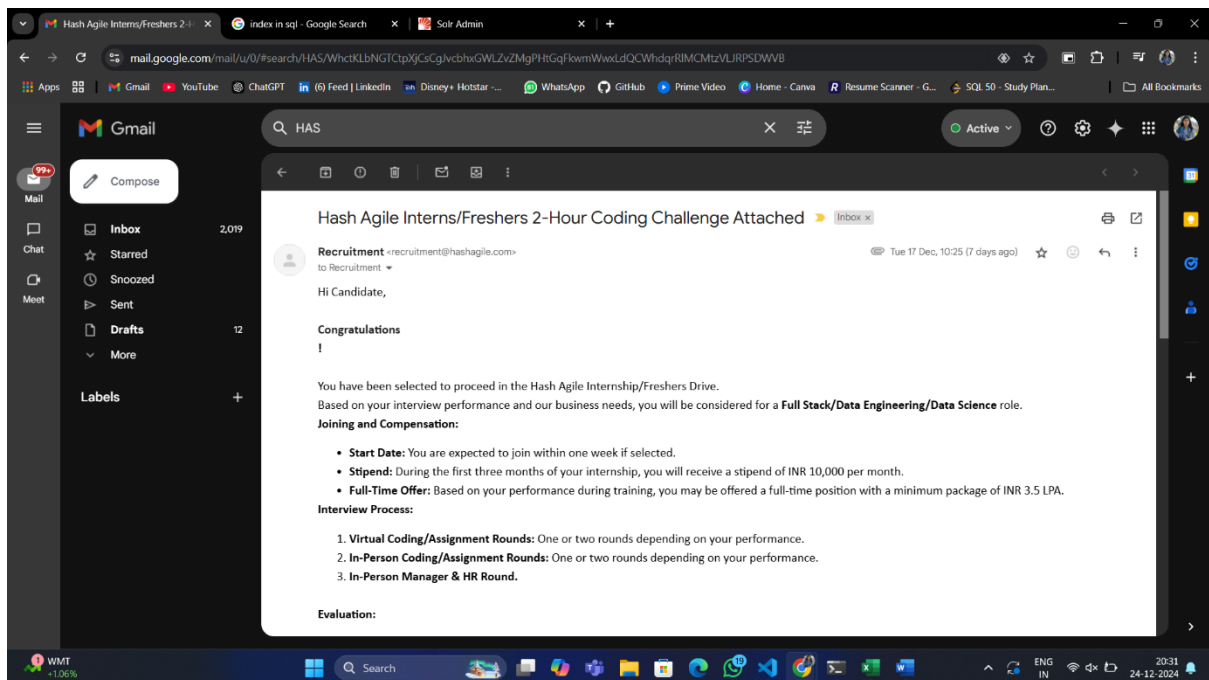
PIC:



FIRST ROUND EMAIL SCREENSHOT:



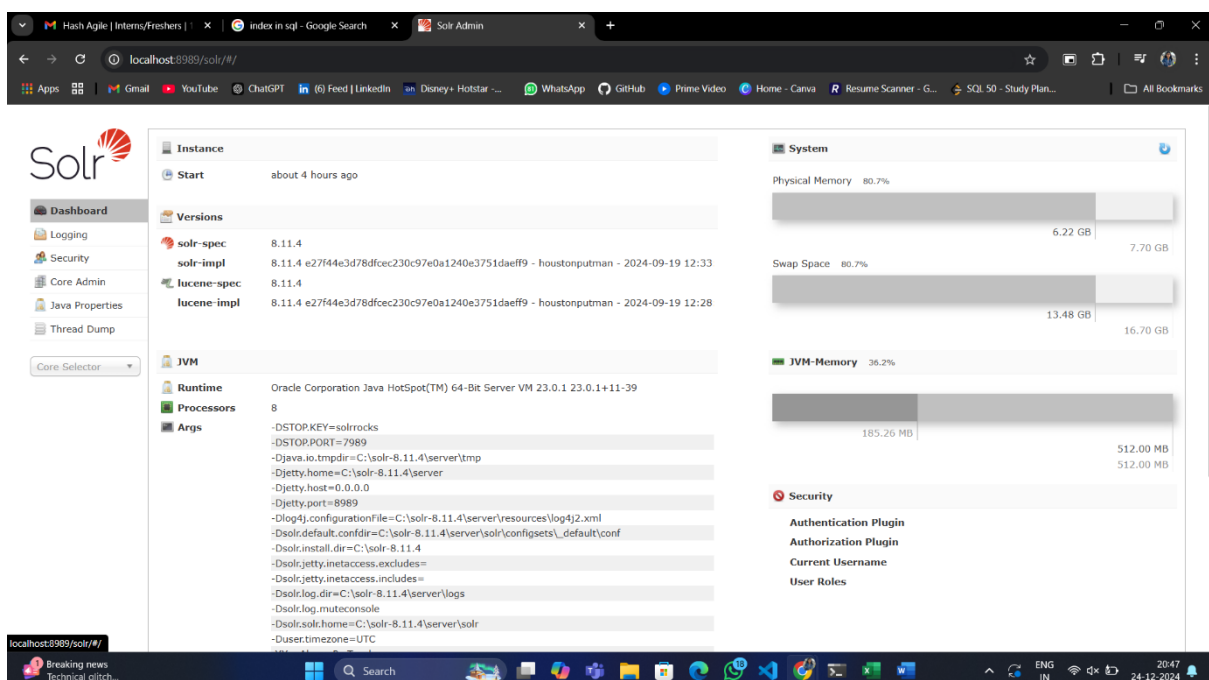
SECOND ROUND EMAIL SCREENSHOT:



GITHUB LINK ROUND 1 : <https://github.com/elamathigithub/HashAgileAssignment>

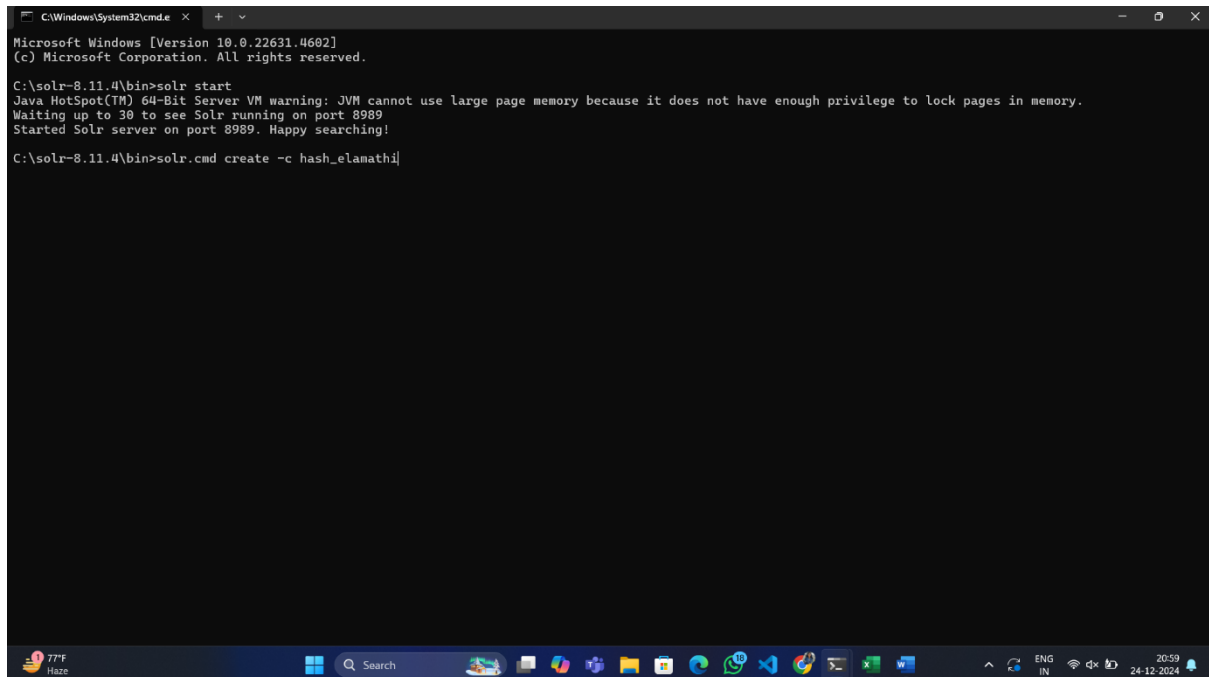
GITHUB LINK ROUND 2: <https://github.com/elamathigithub/HashAgileAssignment>

- Screenshot as proof of the service running on port 8989



Function Executions:

a)Var v_nameCollection = 'Hash_<Your Name>'

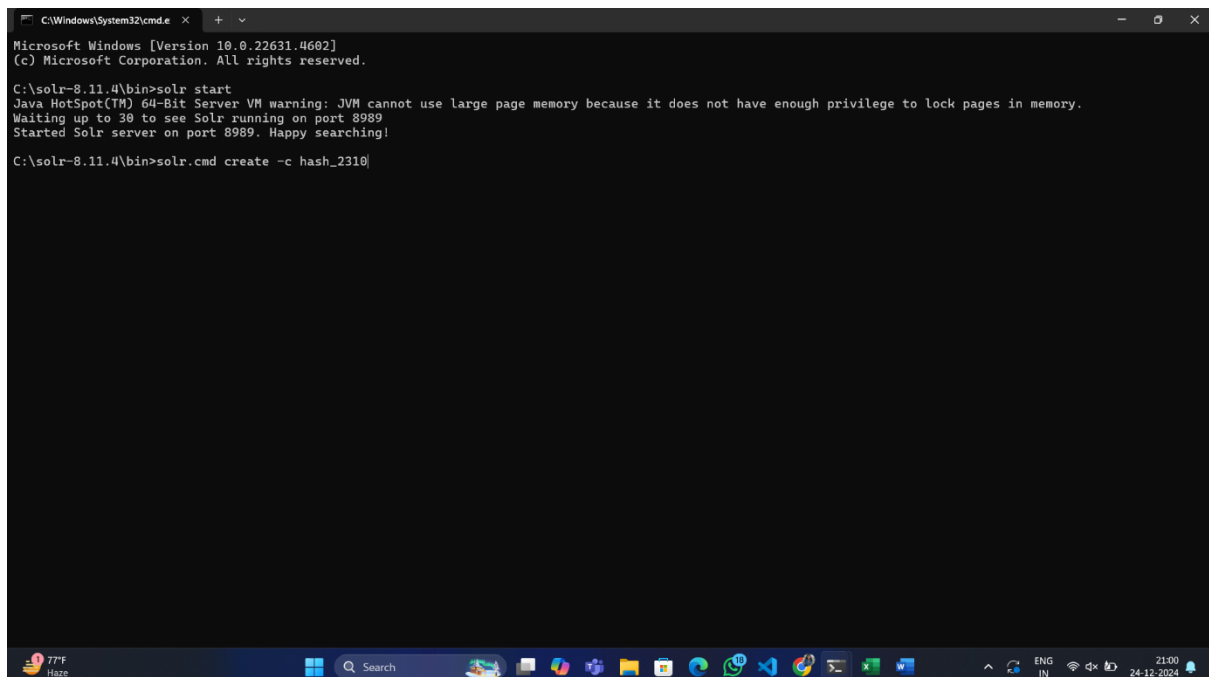


```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22631.4602]
(c) Microsoft Corporation. All rights reserved.

C:\solr-8.11.4\bin>solr start
Java HotSpot(TM) 64-Bit Server VM warning: JVM cannot use large page memory because it does not have enough privilege to lock pages in memory.
Waiting up to 30 to see Solr running on port 8989
Started Solr server on port 8989. Happy searching!

C:\solr-8.11.4\bin>solr.cmd create -c hash_elamathi
```

b)Var v_phoneCollection = 'Hash_<Your Phone last four digits>'



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22631.4602]
(c) Microsoft Corporation. All rights reserved.

C:\solr-8.11.4\bin>solr start
Java HotSpot(TM) 64-Bit Server VM warning: JVM cannot use large page memory because it does not have enough privilege to lock pages in memory.
Waiting up to 30 to see Solr running on port 8989
Started Solr server on port 8989. Happy searching!

C:\solr-8.11.4\bin>solr.cmd create -c hash_2310
```

c) createCollection(v_nameCollection)

The screenshot shows the Solr Admin web interface in a browser. The address bar displays `localhost:8989/solr/#/~cores/hash_elamathi`. The left sidebar contains navigation links: Dashboard, Logging, Security, Core Admin (selected), Java Properties, and Thread Dump. Below these is a 'Core Selector' dropdown. The main content area shows the configuration for the 'hash_elamathi' core. At the top, there are buttons: 'Add Core', 'Unload', 'Rename', 'Swap', and 'Reload'. The 'Core' section displays the following information:

- startTime: about 4 hours ago
- instanceDir: C:\solr-8.11.4\server\solr\hash_elamathi
- dataDir: C:\solr-8.11.4\server\solr\hash_elamathi\data\

The 'Index' section displays the following information:

- lastModified: 34 minutes ago
- version: 22
- numDocs: 1263
- maxDoc: 1263
- deletedDocs: 0
- current: ✓
- directory: org.apache.lucene.store.NRTCachingDirectory:NRTCachingDirectory(MMapDirectory@C:\solr-8.11.4\server\solr\hash_elamathi\data\index lockFactory=org.apache.lucene.store.NativeFSLockFactory@1410ef44; maxCacheMB=48.0 maxMergeSizeMB=4.0)

At the bottom of the main content area, there are links to Documentation, Issue Tracker, IRC Channel, Community forum, and Solr Query Syntax.

d)createCollection(v_phoneCollection)

The screenshot shows the Solr Admin web interface in a browser. The address bar displays `localhost:8989/solr/#/~cores/hash_2310`. The left sidebar contains navigation links: Dashboard, Logging, Security, Core Admin (selected), Java Properties, and Thread Dump. Below these is a 'Core Selector' dropdown. The main content area shows the configuration for the 'hash_2310' core. At the top, there are buttons: 'Add Core', 'Unload', 'Rename', 'Swap', and 'Reload'. The 'Core' section displays the following information:

- startTime: about 4 hours ago
- instanceDir: C:\solr-8.11.4\server\solr\hash_2310
- dataDir: C:\solr-8.11.4\server\solr\hash_2310\data\

The 'Index' section displays the following information:

- lastModified: 38 minutes ago
- version: 26
- numDocs: 1270
- maxDoc: 1270
- deletedDocs: 0
- current: ✓
- directory: org.apache.lucene.store.NRTCachingDirectory:NRTCachingDirectory(MMapDirectory@C:\solr-8.11.4\server\solr\hash_2310\data\index lockFactory=org.apache.lucene.store.NativeFSLockFactory@1410ef44; maxCacheMB=48.0 maxMergeSizeMB=4.0)

At the bottom of the main content area, there are links to Documentation, Issue Tracker, IRC Channel, Community forum, and Solr Query Syntax.

e)getEmpCount(v_nameCollection)

The screenshot shows the Solr Admin web interface. The left sidebar contains navigation links: Dashboard, Logging, Security, Core Admin, Java Properties, Thread Dump, hash_2310 (selected), Overview, Analysis, Dataimport, Documents, Files, Ping, Plugins / Stats, Query (selected), Replication, Schema, and Segments info. The main content area is divided into two panels. The left panel, titled 'Request-Handler (qt)', shows the query configuration: q: /*, q.op: OR, fq: (empty), sort: (empty), start, rows: 0 to 10, fi: (empty), df: (empty), wt: (empty), and deftype: lucene. The right panel shows the response for the query: http://localhost:8989/solr/hash_2310/select?indent=true&q=*&q.op=OR&q=%3A*. The response is a JSON object with a status of 0, QTime of 1, and a list of documents. The first document is for an employee in the Engineering department, and the second is for an employee in the Sales department.

```
http://localhost:8989/solr/hash_2310/select?indent=true&q=*&q.op=OR&q=%3A*

{
  "responseHeader": {
    "status": 0,
    "QTime": 1,
    "params": {
      "q": "/*",
      "indent": "true",
      "q.op": "OR",
      "_": "1735839549399"
    }
  },
  "response": {
    "numFound": 1262,
    "start": 0,
    "numFoundExact": true,
    "docs": [
      {
        "Department": "Engineering",
        "Gender": "Male",
        "Ethnicity": "Asian",
        "Age": 47,
        "Country": "United States",
        "City": "Columbus",
        "id": "9be6b589-369b-45d9-89e2-a2c696c8691d",
        "Employee_ID": "E02082",
        "Full_Name": "Kai Le",
        "Job_Title": "Controls Engineer",
        "Business_Unit": "Manufacturing",
        "Hire_Date": "2/5/2022",
        "Annual_Salary": 992368,
        "Bonus": 0,
        "_version_": 1819320821010661376
      },
      {
        "Department": "Sales",
        "Gender": "Male",
        "Ethnicity": "Asian",
        "Age": 58,
        "Country": "United States",

```

f)indexData(v_nameCollection,'Department')

The screenshot shows the Solr Admin web interface. The left sidebar contains navigation links: Dashboard, Logging, Security, Core Admin, Java Properties, Thread Dump, hash_elamathi (selected), Overview, Analysis, Dataimport, Documents, Files, Ping, Plugins / Stats, Query (selected), Replication, Schema, and Segments info. The main content area is divided into two panels. The left panel, titled 'Request-Handler (qt)', shows the query configuration: q: id:5cfe44ff-14cb-43df-91f0-03d114945e6a, q.op: OR, fq: (empty), sort: (empty), start, rows: 0 to 10, fi: (empty), df: (empty), wt: python, and deftype: lucene. The right panel shows the response for the query: http://localhost:8989/solr/hash_elamathi/select?facet.field=Department&facet=true&indent=true&q=id:5cfe44ff-14cb-43df-91f0-03d114945e6a. The response is a JSON object with a status of 0, QTime of 2, and a list of documents. The first document is for an employee in the Accounting department, and the second is for an employee in the Human Resources department. The response also includes facet counts for each department.

```
http://localhost:8989/solr/hash_elamathi/select?facet.field=Department&facet=true&indent=true&q=id:5cfe44ff-14cb-43df-91f0-03d114945e6a

{
  "responseHeader": {
    "status": 0,
    "QTime": 2,
    "params": {
      "q": "id:5cfe44ff-14cb-43df-91f0-03d114945e6a",
      "facet.field": "Department",
      "indent": "true",
      "q.op": "OR",
      "facet": "true",
      "wt": "python",
      "_": "1735839549399"
    }
  },
  "response": {
    "numFound": 1,
    "start": 0,
    "numFoundExact": true,
    "docs": [
      {
        "Department": "Accounting",
        "Human Resources",
        "Marketing",
        "Sales",
        "id": "5cfe44ff-14cb-43df-91f0-03d114945e6a",
        "_version_": 181933155089528320
      }
    ],
    "facet_counts": {
      "facet_queries": {},
      "facet_fields": {
        "Department": {
          "Accounting": 1,
          "Human": 1,
          "Marketing": 1,
          "Resources": 1,
          "Sales": 1,
          "Engineering": 0,
          "Finance": 0,

```

g) indexData(v_phoneCollection, 'Gender')

The screenshot shows the Solr Admin interface for the 'hash_2310' index. The query is set to `q=Gender:(Male OR Female)` with `q.op=OR` and `indent=true`. The response is a JSON object with the following structure:

```

{
  "responseHeader": {
    "status": 0,
    "QTime": 8,
    "params": {
      "q": "Gender:(Male OR Female)",
      "indent": "true",
      "q.op": "OR",
      "_": "1735039549399"
    }
  },
  "response": {
    "numFound": 1215,
    "start": 0,
    "numFoundExact": true,
    "docs": [
      {
        "id": "1",
        "Gender": ["Male", "Female"],
        "_version_": 1819333219432005632,
        {
          "Gender": ["Male", "Female"],
          "id": "0ef6400e-fdb0-4206-bb8f-c507bd76f4c2",
          "_version_": 18193333346786803712,
          {
            "Department": ["Engineering"],
            "Gender": ["Male"],
            "Ethnicity": ["Asian"],
            "Age": [47],
            "Country": ["United States"],
            "City": ["Columbus"],
            "id": "9be6b589-369b-45d9-89e2-a2c606c8691d",
            "Employee_ID": ["E02002"],
            "Full_Name": ["Kai Le"],
            "Job_Title": ["Controls Engineer"],
            "Business_Unit": ["Manufacturing"],

```

h) getEmpCount(v_nameCollection)

The screenshot shows the Solr Admin interface for the 'hash_2310' index. The query is set to `q=*,*` with `q.op=OR` and `indent=true`. The response is a JSON object with the following structure:

```

{
  "responseHeader": {
    "status": 0,
    "QTime": 1,
    "params": {
      "q": "*,*",
      "indent": "true",
      "q.op": "OR",
      "_": "1735039549399"
    }
  },
  "response": {
    "numFound": 1262,
    "start": 0,
    "numFoundExact": true,
    "docs": [
      {
        "Department": ["Engineering"],
        "Gender": ["Male"],
        "Ethnicity": ["Asian"],
        "Age": [47],
        "Country": ["United States"],
        "City": ["Columbus"],
        "id": "9be6b589-369b-45d9-89e2-a2c606c8691d",
        "Employee_ID": ["E02002"],
        "Full_Name": ["Kai Le"],
        "Job_Title": ["Controls Engineer"],
        "Business_Unit": ["Manufacturing"],
        "Hire_Date": ["2/5/2022"],
        "Annual_Salary": ["$92,368"],
        "Bonus": ["0%"],
        "_version_": 1819320021010661376,
        {
          "Department": ["Sales"],
          "Gender": ["Male"],
          "Ethnicity": ["Asian"],
          "Age": [50],
          "Country": ["United States"],

```

i) delEmpById (v_nameCollection , 'E02003')

The screenshot shows the Solr Admin web interface. On the left is a sidebar with navigation links: Dashboard, Logging, Security, Core Admin, Java Properties, Thread Dump, hash_elamathi (selected), Overview, Analysis, Dataimport, Documents, Files, Ping, Plugins / Stats, Query (selected), Replication, Schema, and Segments info. The main panel is titled 'Request-Handler (qt) /select'. It contains several input fields: 'q' with the value '/select', 'id' with 'E02003', 'q.op' with 'OR', 'fq' (empty), 'sort' (empty), 'start, rows' with '0' and '10', 'df' (empty), 'wt' with 'json', and 'indent on' checked. The 'deftype' is set to 'lucene'. The URL bar shows 'localhost:8989/solr/#/hash_elamathi/query?q=id:E02003&q.op=OR&indent=true'. The response area on the right displays a JSON object:

```
{  "responseHeader": {    "status": 0,    "QTime": 1,    "params": {      "q": "id:E02003",      "indent": "true",      "q.op": "OR",      "_": "1735039549399"    },    "response": {      "numFound": 0,      "start": 0,      "numFoundExact": true,      "docs": []    }  }}
```

j) getEmpCount(v_nameCollection)

The screenshot shows the Solr Admin web interface. The sidebar is the same as in the previous screenshot. The main panel is titled 'Request-Handler (qt) /select'. The 'q' field contains '*/'. The 'id' field is empty. The 'q.op' is 'OR'. The 'fq' field contains 'E02003'. The 'sort' field is empty. The 'start, rows' field is '0' and '10'. The 'df' field is empty. The 'wt' field is 'json'. The 'indent on' checkbox is checked. The 'deftype' is 'lucene'. The URL bar shows 'localhost:8989/solr/#/hash_2310/select?q=*&q.op=OR&q=E02003&indent=true'. The response area on the right displays a JSON object:

```
{  "responseHeader": {    "status": 0,    "QTime": 1,    "params": {      "q": "*/",      "indent": "true",      "q.op": "OR",      "_": "1735039549399"    },    "response": {      "numFound": 1262,      "start": 0,      "numFoundExact": true,      "docs": [        {          "Department": "Engineering",          "Gender": "Male",          "Ethnicity": "Asian",          "Age": 47,          "Country": "United States",          "City": "Columbus",          "id": "9be6b589-369b-45d9-89e2-a2c606c8691d",          "Employee_ID": "E02002",          "Full_Name": "Kai Le",          "Job_Title": "Controls Engineer",          "Business_Unit": "Manufacturing",          "Hire_Date": "4/5/2022",          "Annual_Salary": "$92,368",          "Bonus": "0%",          "_version_": 1819320821010661376,        },        {          "Department": "Sales",          "Gender": "Male",          "Ethnicity": "Asian",          "Age": 38,          "Country": "United States",        }      ]    }  }}
```

k)searchByColumn(v_nameCollection,'Department','IT')

The screenshot shows the Solr Admin web interface. The left sidebar contains navigation links: Dashboard, Logging, Security, Core Admin, Java Properties, Thread Dump, hash_elamathi (selected), Overview, Analysis, Dataimport, Documents, Files, Ping, Plugins / Stats, Query (selected), Replication, Schema, and Segments info. The main content area is divided into two panels. The left panel, titled 'Request-Handler (qt) /select', contains the following fields: 'q' with the value 'Department:IT', 'q.op' set to 'OR', 'fq' (empty), 'sort' (empty), 'start, rows' set to '0 10', 'fl' (empty), 'df' (empty), 'wt' set to '-----', and 'indent on' checked. The right panel displays the JSON response from the query:

```
{
  "responseHeader": {
    "status": 0,
    "QTime": 1,
    "params": {
      "q": "Department:IT",
      "indent": "true",
      "q.op": "OR",
      "_": "1735039549399"
    }
  },
  "response": {
    "numFound": 347,
    "start": 0,
    "numFoundExact": true,
    "docs": [
      {
        "Department": ["IT"],
        "Gender": ["Male"],
        "Ethnicity": ["Asian"],
        "Age": [34],
        "Country": ["China"],
        "City": ["Shanghai"],
        "lat": "af6cdcf-5d8d-4351-896d-ce38b0edf25c",
        "Employee_ID": ["E02004"],
        "Full_Name": ["Cameron Lo"],
        "Job_Title": ["Network Administrator"],
        "Business_Unit": ["Research & Development"],
        "Hire_Date": ["3/24/2019"],
        "Annual_Salary": ["$83,576"],
        "Bonus_": ["0%"],
        "_version_": 1819320794776338433
      },
      {
        "Department": ["IT"],
        "Gender": ["Female"],
        "Ethnicity": ["Latino"],
        "Age": [39],
        "Country": ["United States"],

```

l)searchByColumn(v_nameCollection,'Gender','Male')

The screenshot shows the Solr Admin web interface. The left sidebar is the same as in the previous image. The main content area is divided into two panels. The left panel, titled 'Request-Handler (qt) /select', contains the following fields: 'q' with the value 'Gender:male', 'q.op' set to 'OR', 'fq' (empty), 'sort' (empty), 'start, rows' set to '0 10', 'fl' (empty), 'df' (empty), 'wt' set to '-----', and 'indent on' checked. The right panel displays the JSON response from the query:

```
{
  "responseHeader": {
    "status": 0,
    "QTime": 2,
    "params": {
      "q": "Gender:male",
      "indent": "true",
      "q.op": "OR",
      "_": "1735039549399"
    }
  },
  "response": {
    "numFound": 581,
    "start": 0,
    "numFoundExact": true,
    "docs": [
      {
        "Department": ["Engineering"],
        "Gender": ["Male"],
        "Ethnicity": ["Asian"],
        "Age": [47],
        "Country": ["United States"],
        "City": ["Columbus"],
        "lat": "809091b5-42ff-4c4f-b48d-91edfc34591f",
        "Employee_ID": ["E02002"],
        "Full_Name": ["Kai Le"],
        "Job_Title": ["Controls Engineer"],
        "Business_Unit": ["Manufacturing"],
        "Hire_Date": ["2/5/2022"],
        "Annual_Salary": ["$92,368"],
        "Bonus_": ["0%"],
        "_version_": 1819320794560331776
      },
      {
        "Department": ["Sales"],
        "Gender": ["Male"],
        "Ethnicity": ["Asian"],
        "Age": [36],
        "Country": ["United States"],

```


m)searchByColumn(v_phoneCollection,'Department','IT')

The screenshot shows the Solr Admin web interface. The left sidebar contains navigation links: Dashboard, Logging, Security, Core Admin, Java Properties, Thread Dump, hash_2310, Overview, Analysis, Dataimport, Documents, Files, Ping, Plugins / Stats, Query (selected), Replication, Schema, and Segments info. The main content area is divided into two panels. The left panel, titled 'Request-Handler (qt)', contains fields for '/select', 'q' (set to 'Department:IT'), 'q.op' (set to 'OR'), 'fq' (empty), 'sort' (empty), 'start, rows' (set to '0 10'), 'fl' (empty), 'df' (empty), 'wt' (set to 'json'), 'indent on' (checked), 'debugQuery' (unchecked), 'defType' (set to 'lucene'), and 'hl' (unchecked). The right panel displays the JSON response from the query:

```
{
  "responseHeader": {
    "status": 0,
    "QTime": 1,
    "params": {
      "q": "Department:IT",
      "indent": "true",
      "q.op": "OR",
      "_": "1735839549399"
    },
    "response": {
      "numFound": 347,
      "start": 0,
      "numFoundExact": true,
      "docs": [
        {
          "Department": ["IT"],
          "Gender": ["Male"],
          "Ethnicity": ["Asian"],
          "Age": [34],
          "Country": ["China"],
          "City": ["Shanghai"],
          "id": "3cf9918c-3c5d-461a-9e48-81e899a239ae",
          "Employee_ID": ["E02004"],
          "Full_Name": ["Cameron Lo"],
          "Job_Title": ["Network Administrator"],
          "Business_Unit": ["Research & Development"],
          "Hire_Date": ["3/24/2019"],
          "Annual_Salary": ["$83,576 "],
          "Bonus_": ["0%"],
          "_version_": 1819320821018001409,
          "Department": ["IT"],
          "Gender": ["Female"],
          "Ethnicity": ["Latino"],
          "Age": [39],
          "Country": ["United States"]
        }
      ]
    }
  }
}
```

n)getDepFacet(v_nameCollection)

The screenshot shows the Solr Admin web interface. The left sidebar is the same as in the previous screenshot. The main content area is divided into two panels. The left panel, titled 'Request-Handler (qt)', contains fields for '/select', 'q' (set to '*&q.op=OR&indent=true&facet=true&facet.field=Department&facet.limit=10&q1=%2fselect'), 'q.op' (set to 'OR'), 'fq' (empty), 'sort' (empty), 'start, rows' (set to '0 10'), 'fl' (empty), 'df' (empty), 'wt' (set to 'json'), 'indent on' (checked), 'debugQuery' (unchecked), 'defType' (set to 'lucene'), and 'hl' (unchecked). The right panel displays the JSON response from the query:

```
{
  "responseHeader": {
    "status": 0,
    "QTime": 1,
    "params": {
      "q": "*&q.op=OR&indent=true&facet=true&facet.field=Department&facet.limit=10&q1=%2fselect",
      "indent": "true",
      "q.op": "OR",
      "_": "1735839549399"
    },
    "response": {
      "numFound": 347,
      "start": 0,
      "numFoundExact": true,
      "docs": [
        {
          "Department": ["Finance"],
          "Gender": ["Male"],
          "Ethnicity": ["Caucasian"],
          "Age": [52],
          "Country": ["United States"],
          "City": ["Miami"],
          "id": "c1ee5d7-443b-4a52-bd29-f3b98981a2e6",
          "Employee_ID": ["E02011"],
          "Full_Name": ["Jameson Thomas"],
          "Job_Title": ["Manager"],
          "Business_Unit": ["Specialty Products"],
          "Hire_Date": ["2/5/2019"],
          "Annual_Salary": ["$105,879 "],
          "Bonus_": ["10%"],
          "_version_": 1819320794993393664
        }
      ],
      "facet_counts": {
        "facet_queries": {},
        "facet_fields": {
          "Department": [
            "it", 347,
            "sales", 188,
            "engineering", 159,
            "marketing", 136,
            "accounting", 132,
            "finance", 129,
            "human", 124,
            "resources", 124
          ]
        },
        "facet_ranges": {},
        "facet_intervals": {},
        "facet_heatmaps": {}
      }
    }
  }
}
```

o)getDepFacet(v_phoneCollection)

The screenshot shows a web browser window with the Solr Admin interface. The address bar displays the URL: `localhost:8989/solr/#/hash_2310/query?q=*:*&q.op=OR&indent=true&facet=true&facet.field=Department&facet.limit=5`. The main content area shows a JSON response from the Solr query. The response includes a single document for a person named Jameson Thomas, a manager in the Finance department, and a facet_counts section showing the distribution of documents across departments.

```
{
  "response": {
    "docs": [
      {
        "Annual_Salary": {"$97,638 "},
        "Bonus__": {"8%"},
        "_version_": 1819320821172142083,
        "Department": ["Finance"],
        "Gender": ["Male"],
        "Ethnicity": ["Caucasian"],
        "Age": [52],
        "Country": ["United States"],
        "City": ["Miami"],
        "Id": "62766719-c3b0-47d8-ae66-d1198fd32727",
        "Employee_ID": ["E02011"],
        "Full_Name": ["Jameson Thomas"],
        "Job_Title": ["Manager"],
        "Business_Unit": ["Specialty Products"],
        "Hire_Date": ["2/5/2015"],
        "Annual_Salary": {"$105,879 "},
        "Bonus__": {"10%"},
        "_version_": 1819320821182627840
      }
    ],
    "facet_counts": {
      "facet_queries": {},
      "facet_fields": {
        "Department": [
          "it", 347,
          "Sales", 188,
          "engineering", 159,
          "marketing", 136,
          "accounting", 132
        ]
      },
      "facet_ranges": {},
      "facet_intervals": {},
      "facet_heatmaps": {}
    }
  }
}
```

At the bottom of the browser window, there are links to Documentation, Issue Tracker, IRC Channel, Community forum, and Solr Query Syntax. The Windows taskbar at the very bottom shows the date and time as 18:57 on 24-12-2024.