```
Python 3.11.9 (tags/v3.11.9:de54cf5, Apr  2 2024, 10:12:12) [MSC v.1938 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
=========== RESTART: C:/Users/rizvi_p3mati9/Downloads/hrms testing.py ==========

Human Resource Management System Menu:
1. Add Employee
2. Delete Employee
3. Update Employee Status
4. Search Employee
5. Calculate Total Salary Expense
6. Sort Employees
7. Generate Employee Report
8. Backup Employee Data to CSV
9. Exit
Enter your choice: |
```

```
Enter your choice: 1
Enter Employee ID: 1001
Enter First Name: Sam
Enter Last Name: Baker
Enter Department: Finance
Enter Position: Head
Enter Salary: 20000
Enter Date of Hire (YYYY-MM-DD): 2024-12-11
Enter Email: sam.baker@gmail.com
Enter Phone Number: 101010101010
Enter Address: nashville
Enter Status (Active/On Leave/Resigned): Active
Employee added successfully!
```

```
Human Resource Management System Menu:
1. Add Employee
2. Delete Employee
3. Update Employee Status
4. Search Employee
5. Calculate Total Salary Expense
6. Sort Employees
7. Generate Employee Report
8. Backup Employee Data to CSV
9. Exit
Enter your choice: 2
Enter Employee ID to delete: 1001
Employee deleted successfully!
```

```
Human Resource Management System Menu:
1. Add Employee
2. Delete Employee
3. Update Employee Status
4. Search Employee
5. Calculate Total Salary Expense
6. Sort Employees
7. Generate Employee Report
8. Backup Employee Data to CSV
9. Exit
Enter your choice: 3
Enter Employee ID to update status: 1001
Enter new status (Active/On Leave/Resigned): Resigned
Employee status updated successfully!
```

```
Human Resource Management System Menu:
1. Add Employee
2. Delete Employee
3. Update Employee Status
4. Search Employee
5. Calculate Total Salary Expense
6. Sort Employees
7. Generate Employee Report
8. Backup Employee Data to CSV
9. Exit
Enter your choice: 5
Enter Department to calculate total salary (or press Enter for all):
Total salary expense: 1171000
```

```
Human Resource Management System Menu:
1. Add Employee
2. Delete Employee
3. Update Employee Status
4. Search Employee
5. Calculate Total Salary Expense
6. Sort Employees
7. Generate Employee Report
8. Backup Employee Data to CSV
9. Exit
Enter your choice: 6
Sort by (Name/Salary/Date): Name
```

Employee_ID	First_Name	Last_Name	Department	Position	Salary	Date_of_Hire	Email	Phone_Number	Address	Status
E004	Alice	Williams	Marketing	Marketing Specialist	65000	2022-09-10	alice.williams@example.com	555-2345	321 Maple St	Active
E003	Bob	Johnson	Finance	Accountant	60000	2020-01-12	bob.johnson@example.com	555-8765	789 Pine St	Active
E005	Charlie	Brown	IT	System Administrator	70000	2018-05-30	charlie.brown@example.com	555-4321	654 Cedar St	Active
E006	Eva	Green	Sales	Sales Representative	55000	2020-12-03	eva.green@example.com	555-3456	987 Birch St	Active
E007	Frank	Harris	IT	Data Analyst	72000	2021-10-08	frank.harris@example.com	555-6789	147 Spruce St	On Leave
E008	Grace	Lee	HR	Recruiter	58000	2020-07-25	grace.lee@example.com	555-9876	258 Fir St	Active
E009	Henry	Adams	Finance	Financial Analyst	69000	2019-11-13	henry.adams@example.com	555-4567	369 Walnut St	Resigned
E010	Ivy	Miller	Marketing	Social Media Manager	67000	2021-02-19	ivy.miller@example.com	555-7654	741 Willow St	Active
E011	Jack	White	Sales	Sales Manager	80000	2022-04-22	jack.white@example.com	555-1122	852 Poplar St	Active
E002	Jane	Smith	HR	HR Manager	82000	2019-07-22	jane.smith@example.com	555-5678	456 Oak St	Active
E001	John	Doe	IT	Software Engineer	75000	2021-03-15	john.doe@example.com	555-1234	123 Elm St	Active
E012	Kayla	Davis	IT	Network Engineer	74000	2019-03-08	kayla.davis@example.com	555-3344	963 Ash St	Active
E013	Liam	Baker	HR	HR Assistant	52000	2020-09-15	liam.baker@example.com	555-5566	174 Cypress St	Active
E014	Mia	Clark	Finance	Accountant	60000	2018-12-29	mia.clark@example.com	555-7788	285 Redwood St	On Leave
E015	Noah	Evans	Marketing	Content Writer	53000	2021-06-18	noah.evans@example.com	555-9900	396 Sequoia St	Active
E016	Olivia	Hughes	Sales	Sales Representative	55000	2019-10-05	olivia.hughes@example.com	555-1133	507 Magnolia St	Active
E017	Paul	Scott	IT	Software Engineer	76000	2022-02-27	paul.scott@example.com	555-2244	618 Palm St	Active
E018	Quinn	Morris	HR	HR Specialist	61000	2020-04-09	quinn.morris@example.com	555-3355	729 Sycamore St	Active
E019	Rachel	Walker	Finance	Chief Financial Officer	120000	2018-07-16	rachel.walker@example.com	555-4466	840 Dogwood St	Active
E020	Sam	Young	Marketing	Brand Manager	68000	2021-11-05	sam.young@example.com	555-5577	951 Hickory St	Active

```
Human Resource Management System Menu:
1. Add Employee
2. Delete Employee
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4. Search Employee
5. Calculate Total Salary Expense
6. Sort Employees
7. Generate Employee Report
8. Backup Employee Data to CSV
9. Exit
Enter your choice: 6
Sort by (Name/Salary/Date): Salary
```

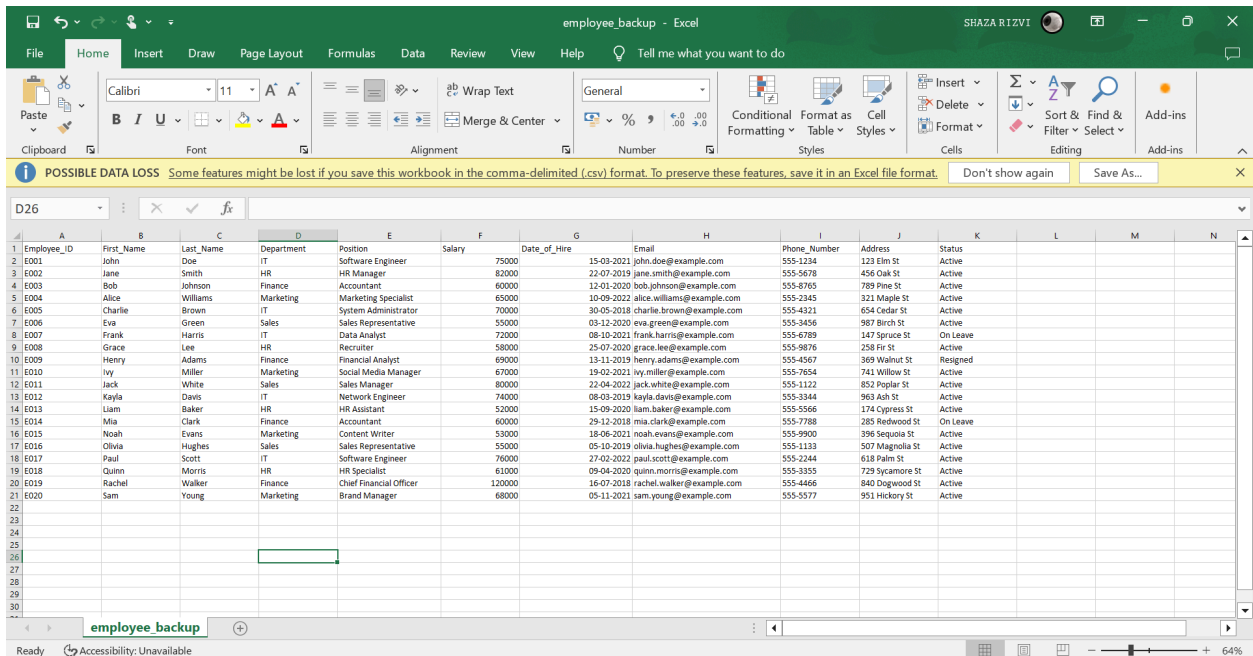| Employee_ID	First_Name	Last_Name	Department	Position	Salary	Date_of_Hire	Email	Phone_Number	Address	Status
E019	Rachel	Walker	Finance	Chief Financial Officer	120000	2018-07-16	rachel.walker@example.com	555-4466	840 Dogwood St	Active
E002	Jane	Smith	HR	HR Manager	82000	2019-07-22	jane.smith@example.com	555-5678	456 Oak St	Active
E011	Jack	White	Sales	Sales Manager	80000	2022-04-22	jack.white@example.com	555-1122	852 Poplar St	Active
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E001	John	Doe	IT	Software Engineer	75000	2021-03-15	john.doe@example.com	555-1234	123 Elm St	Active
E012	Kayla	Davis	IT	Network Engineer	74000	2019-03-08	kayla.davis@example.com	555-3344	963 Ash St	Active
E007	Frank	Harris	IT	Data Analyst	72000	2021-10-08	frank.harris@example.com	555-6789	147 Spruce St	On Leave
E005	Charlie	Brown	IT	System Administrator	70000	2018-05-30	charlie.brown@example.com	555-4321	654 Cedar St	Active
E009	Henry	Adams	Finance	Financial Analyst	69000	2019-11-13	henry.adams@example.com	555-4567	369 Walnut St	Resigned
E020	Sam	Young	Marketing	Brand Manager	68000	2021-11-05	sam.young@example.com	555-5577	951 Hickory St	Active
E010	Ivy	Miller	Marketing	Social Media Manager	67000	2021-02-19	ivy.miller@example.com	555-7654	741 Willow St	Active
E004	Alice	Williams	Marketing	Marketing Specialist	65000	2022-09-10	alice.williams@example.com	555-2345	321 Maple St	Active
E018	Quinn	Morris	HR	HR Specialist	61000	2020-04-09	quinn.morris@example.com	555-3355	729 Sycamore St	Active
E003	Bob	Johnson	Finance	Accountant	60000	2020-01-12	bob.johnson@example.com	555-8765	789 Pine St	Active
E014	Mia	Clark	Finance	Accountant	60000	2018-12-29	mia.clark@example.com	555-7788	285 Redwood St	On Leave
E008	Grace	Lee	HR	Recruiter	58000	2020-07-25	grace.lee@example.com	555-9876	258 Fir St	Active
E006	Eva	Green	Sales	Sales Representative	55000	2020-12-03	eva.green@example.com	555-3456	987 Birch St	Active
E016	Olivia	Hughes	Sales	Sales Representative	55000	2019-10-05	olivia.hughes@example.com	555-1133	507 Magnolia St	Active
E015	Noah	Evans	Marketing	Content Writer	53000	2021-06-18	noah.evans@example.com	555-9900	396 Sequoia St	Active
E013	Liam	Baker	HR	HR Assistant	52000	2020-09-15	liam.baker@example.com	555-5566	174 Cypress St	Active

```
Human Resource Management System Menu:
1. Add Employee
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5. Calculate Total Salary Expense
6. Sort Employees
7. Generate Employee Report
8. Backup Employee Data to CSV
9. Exit
Enter your choice: 6
Sort by (Name/Salary/Date): date
```

Employee_ID	First_Name	Last_Name	Department	Position	Salary	Date_of_Hire	Email	Phone_Number	Address	Status
E005	Charlie	Brown	IT	System Administrator	70000	2018-05-30	charlie.brown@example.com	555-4321	654 Cedar St	Active
E019	Rachel	Walker	Finance	Chief Financial Officer	120000	2018-07-16	rachel.walker@example.com	555-4466	840 Dogwood St	Active
E014	Mia	Clark	Finance	Accountant	60000	2018-12-29	mia.clark@example.com	555-7788	285 Redwood St	On Leave
E012	Kayla	Davis	IT	Network Engineer	74000	2019-03-08	kayla.davis@example.com	555-3344	963 Ash St	Active
E002	Jane	Smith	HR	HR Manager	82000	2019-07-22	jane.smith@example.com	555-5678	456 Oak St	Active
E016	Olivia	Hughes	Sales	Sales Representative	55000	2019-10-05	olivia.hughes@example.com	555-1133	507 Magnolia St	Active
E009	Henry	Adams	Finance	Financial Analyst	69000	2019-11-13	henry.adams@example.com	555-4567	369 Walnut St	Resigned
E003	Bob	Johnson	Finance	Accountant	60000	2020-01-12	bob.johnson@example.com	555-8765	789 Pine St	Active
E018	Quinn	Morris	HR	HR Specialist	61000	2020-04-09	quinn.morris@example.com	555-3355	729 Sycamore St	Active
E008	Grace	Lee	HR	Recruiter	58000	2020-07-25	grace.lee@example.com	555-9876	258 Fir St	Active
E013	Liam	Baker	HR	HR Assistant	52000	2020-09-15	liam.baker@example.com	555-5566	174 Cypress St	Active
E006	Eva	Green	Sales	Sales Representative	55000	2020-12-03	eva.green@example.com	555-3456	987 Birch St	Active
E010	Ivy	Miller	Marketing	Social Media Manager	67000	2021-02-19	ivy.miller@example.com	555-7654	741 Willow St	Active
E001	John	Doe	IT	Software Engineer	75000	2021-03-15	john.doe@example.com	555-1234	123 Elm St	Active
E015	Noah	Evans	Marketing	Content Writer	53000	2021-06-18	noah.evans@example.com	555-9900	396 Sequoia St	Active
E007	Frank	Harris	IT	Data Analyst	72000	2021-10-08	frank.harris@example.com	555-6789	147 Spruce St	On Leave
E020	Sam	Young	Marketing	Brand Manager	68000	2021-11-05	sam.young@example.com	555-5577	951 Hickory St	Active
E017	Paul	Scott	IT	Software Engineer	76000	2022-02-27	paul.scott@example.com	555-2244	618 Palm St	Active
E011	Jack	White	Sales	Sales Manager	80000	2022-04-22	jack.white@example.com	555-1122	852 Poplar St	Active
E004	Alice	Williams	Marketing	Marketing Specialist	65000	2022-09-10	alice.williams@example.com	555-2345	321 Maple St	Active

```
*IDLE Shell 3.11.9*

File   Edit   Shell   Debug   Options   Window   Help

Human Resource Management System Menu:
1. Add Employee
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5. Calculate Total Salary Expense
6. Sort Employees
7. Generate Employee Report
8. Backup Employee Data to CSV
9. Exit
Enter your choice: 7
Employee Report by Department:
+------------+--------------------+--------------+
| Department | Number of Employees | Total Salary |
+------------+--------------------+--------------+
|     IT     |          4          |    295000    |
|     HR     |          4          |    253000    |
|   Finance  |          2          |    180000    |
| Marketing  |          4          |    253000    |
|    Sales   |          3          |    190000    |
+------------+--------------------+--------------+
```

```
Human Resource Management System Menu:
1. Add Employee
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8. Backup Employee Data to CSV
9. Exit
Enter your choice: 8
Backup successful. Data saved to 'employee_backup.csv'.
```

Employee_ID	First_Name	Last_Name	Department	Position	Salary	Date_of_Hire	Email	Phone_Number	Address	Status
E001	John	Doe	IT	Software Engineer	75000	15-03-2021	john.doe@example.com	555-1234	123 Elm St	Active
E002	Jane	Smith	HR	HR Manager	82000	22-07-2019	jane.smith@example.com	555-5678	456 Oak St	Active
E003	Bob	Johnson	Finance	Accountant	60000	12-01-2020	bob.johnson@example.com	555-8765	789 Pine St	Active
E004	Alice	Williams	Marketing	Marketing Specialist	65000	10-09-2022	alice.williams@example.com	555-2345	321 Maple St	Active
E005	Charlie	Brown	IT	System Administrator	70000	30-05-2018	charlie.brown@example.com	555-4321	654 Cedar St	Active
E006	Eva	Green	Sales	Sales Representative	55000	03-12-2020	eva.green@example.com	555-3456	987 Birch St	Active
E007	Frank	Harris	IT	Data Analyst	72000	08-10-2021	frank.harris@example.com	555-6789	147 Spruce St	On Leave
E008	Grace	Lee	HR	Recruiter	58000	25-07-2020	grace.lee@example.com	555-9876	258 Fir St	Active
E009	Henry	Adams	Finance	Financial Analyst	69000	13-11-2019	henry.adams@example.com	555-4567	369 Walnut St	Resigned
E010	Ivy	Miller	Marketing	Social Media Manager	67000	19-02-2021	ivy.miller@example.com	555-7654	741 Willow St	Active
E011	Jack	White	Sales	Sales Manager	80000	22-04-2022	jack.white@example.com	555-1122	852 Poplar St	Active
E012	Kayla	Davis	IT	Network Engineer	74000	08-03-2019	kayla.davis@example.com	555-3344	963 Ash St	Active
E013	Liam	Baker	HR	HR Assistant	52000	15-09-2020	liam.baker@example.com	555-5566	174 Cypress St	Active
E014	Mia	Clark	Finance	Accountant	60000	29-12-2018	mia.clark@example.com	555-7788	285 Redwood St	On Leave
E015	Noah	Evans	Marketing	Content Writer	53000	18-06-2021	noah.evans@example.com	555-9900	396 Sequoia St	Active
E016	Olivia	Hughes	Sales	Sales Representative	55000	05-10-2019	olivia.hughes@example.com	555-1133	507 Magnolia St	Active
E017	Paul	Scott	IT	Software Engineer	76000	27-02-2022	paul.scott@example.com	555-2244	618 Palm St	Active
E018	Quinn	Morris	HR	HR Specialist	61000	09-04-2020	quinn.morris@example.com	555-3355	729 Sycamore St	Active
E019	Rachel	Walker	Finance	Chief Financial Officer	120000	16-07-2018	rachel.walker@example.com	555-4466	840 Dogwood St	Active
E020	Sam	Young	Marketing	Brand Manager	68000	05-11-2021	sam.young@example.com	555-5577	951 Hickory St	Active

```
mysql> use humanresourcemanagmentsystem
Database changed
mysql> show tables;
+----------------------------------------+
| Tables_in_humanresourcemanagmentsystem |
+----------------------------------------+
| employee                               |
+----------------------------------------+
1 row in set (0.02 sec)
```

```
mysql> desc employee;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| Employee_ID  | varchar(5)   | NO   | PRI | NULL    |       |
| First_Name   | varchar(50)  | YES  |     | NULL    |       |
| Last_Name    | varchar(50)  | YES  |     | NULL    |       |
| Department   | varchar(50)  | YES  |     | NULL    |       |
| Position     | varchar(50)  | YES  |     | NULL    |       |
| Salary       | int          | YES  |     | NULL    |       |
| Date_of_Hire | date         | YES  |     | NULL    |       |
| Email        | varchar(100) | YES  |     | NULL    |       |
| Phone_Number | varchar(20)  | YES  |     | NULL    |       |
| Address      | varchar(100) | YES  |     | NULL    |       |
| Status       | varchar(20)  | YES  |     | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
11 rows in set (0.01 sec)
```

```
mysql> select * from employee;
+-------------+------------+-----------+------------+-------------------------+--------+--------------+-----------------------------+--------------+-----------------+----------+
| Employee_ID | First_Name | Last_Name | Department | Position                | Salary | Date_of_Hire | Email                       | Phone_Number | Address         | Status   |
+-------------+------------+-----------+------------+-------------------------+--------+--------------+-----------------------------+--------------+-----------------+----------+
| E001        | John       | Doe       | IT         | Software Engineer       |  75000 | 2021-03-15   | john.doe@example.com        | 555-1234     | 123 Elm St      | Active   |
| E002        | Jane       | Smith     | HR         | HR Manager              |  82000 | 2019-07-22   | jane.smith@example.com      | 555-5678     | 456 Oak St      | Active   |
| E003        | Bob        | Johnson   | Finance    | Accountant              |  60000 | 2020-01-12   | bob.johnson@example.com     | 555-8765     | 789 Pine St     | Active   |
| E004        | Alice      | Williams  | Marketing  | Marketing Specialist    |  65000 | 2022-09-10   | alice.williams@example.com  | 555-2345     | 321 Maple St    | Active   |
| E005        | Charlie    | Brown     | IT         | System Administrator    |  70000 | 2018-05-30   | charlie.brown@example.com   | 555-4321     | 654 Cedar St    | Active   |
| E006        | Eva        | Green     | Sales      | Sales Representative    |  55000 | 2020-12-03   | eva.green@example.com       | 555-3456     | 987 Birch St    | Active   |
| E007        | Frank      | Harris    | IT         | Data Analyst            |  72000 | 2021-10-08   | frank.harris@example.com    | 555-6789     | 147 Spruce St   | On Leave |
| E008        | Grace      | Lee       | HR         | Recruiter               |  58000 | 2020-07-25   | grace.lee@example.com       | 555-9876     | 258 Fir St      | Active   |
| E009        | Henry      | Adams     | Finance    | Financial Analyst       |  69000 | 2019-11-13   | henry.adams@example.com     | 555-4567     | 369 Walnut St   | Resigned |
| E010        | Ivy        | Miller    | Marketing  | Social Media Manager    |  67000 | 2021-02-19   | ivy.miller@example.com      | 555-7654     | 741 Willow St   | Active   |
| E011        | Jack       | White     | Sales      | Sales Manager           |  80000 | 2022-04-22   | jack.white@example.com      | 555-1122     | 852 Poplar St   | Active   |
| E012        | Kayla      | Davis     | IT         | Network Engineer        |  74000 | 2019-03-08   | kayla.davis@example.com     | 555-3344     | 963 Ash St      | Active   |
| E013        | Liam       | Baker     | HR         | HR Assistant            |  52000 | 2020-09-15   | liam.baker@example.com      | 555-5566     | 174 Cypress St  | Active   |
| E014        | Mia        | Clark     | Finance    | Accountant              |  60000 | 2018-12-29   | mia.clark@example.com       | 555-7788     | 285 Redwood St  | On Leave |
| E015        | Noah       | Evans     | Marketing  | Content Writer          |  53000 | 2021-06-18   | noah.evans@example.com      | 555-9900     | 396 Sequoia St  | Active   |
| E016        | Olivia     | Hughes    | Sales      | Sales Representative    |  55000 | 2019-10-05   | olivia.hughes@example.com   | 555-1133     | 507 Magnolia St | Active   |
| E017        | Paul       | Scott     | IT         | Software Engineer       |  76000 | 2022-02-27   | paul.scott@example.com      | 555-2244     | 618 Palm St     | Active   |
| E018        | Quinn      | Morris    | HR         | HR Specialist           |  61000 | 2020-04-09   | quinn.morris@example.com    | 555-3355     | 729 Sycamore St | Active   |
| E019        | Rachel     | Walker    | Finance    | Chief Financial Officer | 120000 | 2018-07-16   | rachel.walker@example.com   | 555-4466     | 840 Dogwood St  | Active   |
| E020        | Sam        | Young     | Marketing  | Brand Manager           |  68000 | 2021-11-05   | sam.young@example.com       | 555-5577     | 951 Hickory St  | Active   |
+-------------+------------+-----------+------------+-------------------------+--------+--------------+-----------------------------+--------------+-----------------+----------+
20 rows in set (0.00 sec)
```