

Coding Challenges 2: CareerHub, The Job Board

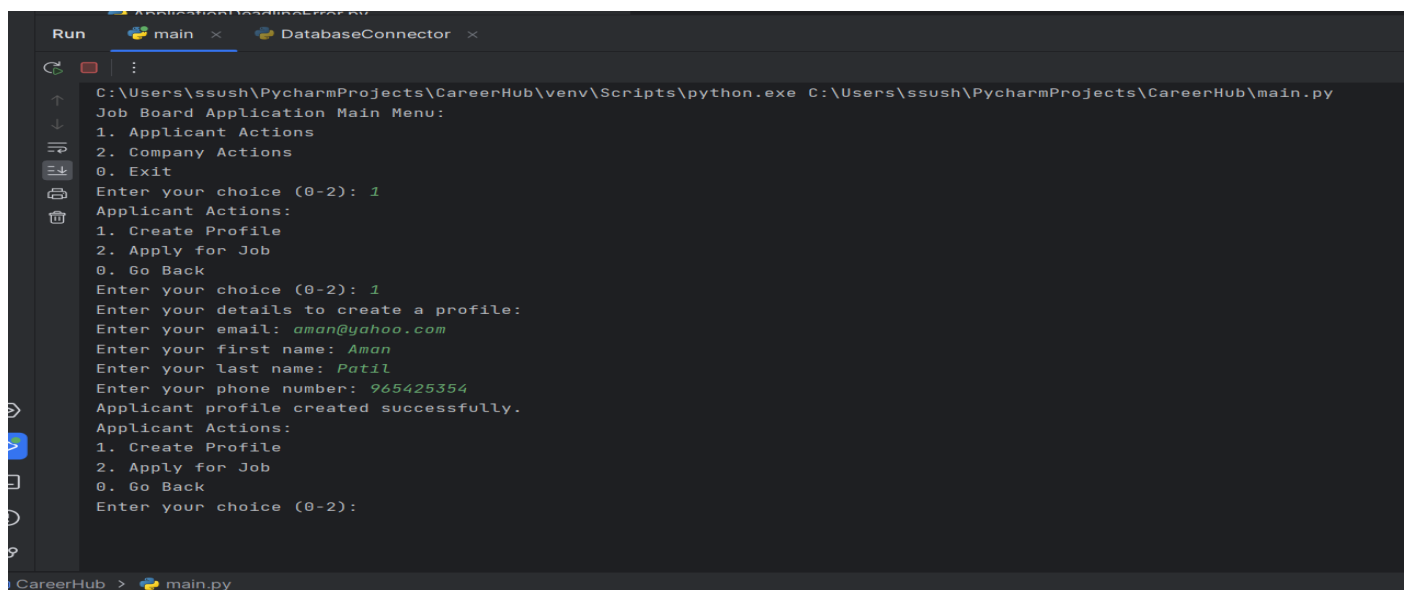
Name:- Sushant Kumar Singh

Problem Statement:

A Job Board scenario is a digital platform or system that facilitates the process of job searching and recruitment. In this scenario, various stakeholders, such as job seekers, companies, and recruiters, use the platform to post, search for, and apply to job opportunities.

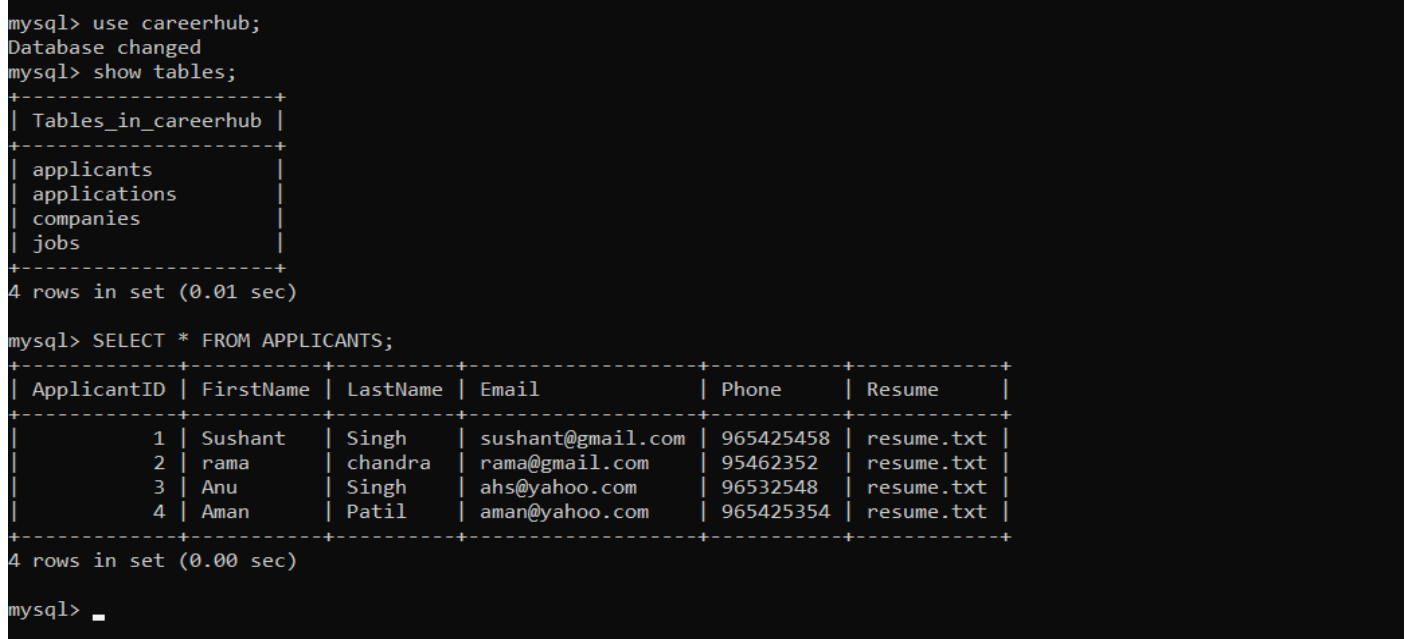
Create SQL Schema from the application, use the class attributes for table column names.

SOLVED PROBLEM STATEMENT



```
Run  main x DatabaseConnector x
C:\Users\ssush\PycharmProjects\CareerHub\venv\Scripts\python.exe C:\Users\ssush\PycharmProjects\CareerHub\main.py
Job Board Application Main Menu:
1. Applicant Actions
2. Company Actions
0. Exit
Enter your choice (0-2): 1
Applicant Actions:
1. Create Profile
2. Apply for Job
0. Go Back
Enter your choice (0-2): 1
Enter your details to create a profile:
Enter your email: aman@yahoo.com
Enter your first name: Aman
Enter your last name: Patil
Enter your phone number: 965425354
Applicant profile created successfully.
Applicant Actions:
1. Create Profile
2. Apply for Job
0. Go Back
Enter your choice (0-2):
```

OUR GIVEN INPUT SUCCESSEFULL SAVEED IN OUR DATABASE



```
mysql> use careerhub;
Database changed
mysql> show tables;
+-----+
| Tables_in_careerhub |
+-----+
| applicants           |
| applications         |
| companies            |
| jobs                |
+-----+
4 rows in set (0.01 sec)

mysql> SELECT * FROM APPLICANTS;
+-----+-----+-----+-----+-----+-----+
| ApplicantID | FirstName | LastName | Email           | Phone   | Resume |
+-----+-----+-----+-----+-----+-----+
| 1           | Sushant   | Singh    | sushant@gmail.com | 965425458 | resume.txt |
| 2           | rama      | chandra  | rama@gmail.com   | 95462352 | resume.txt |
| 3           | Anu       | Singh    | ahs@yahoo.com    | 96532548 | resume.txt |
| 4           | Aman     | Patil    | aman@yahoo.com    | 965425354 | resume.txt |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

1. Create and implement the mentioned class and the structure in your application.

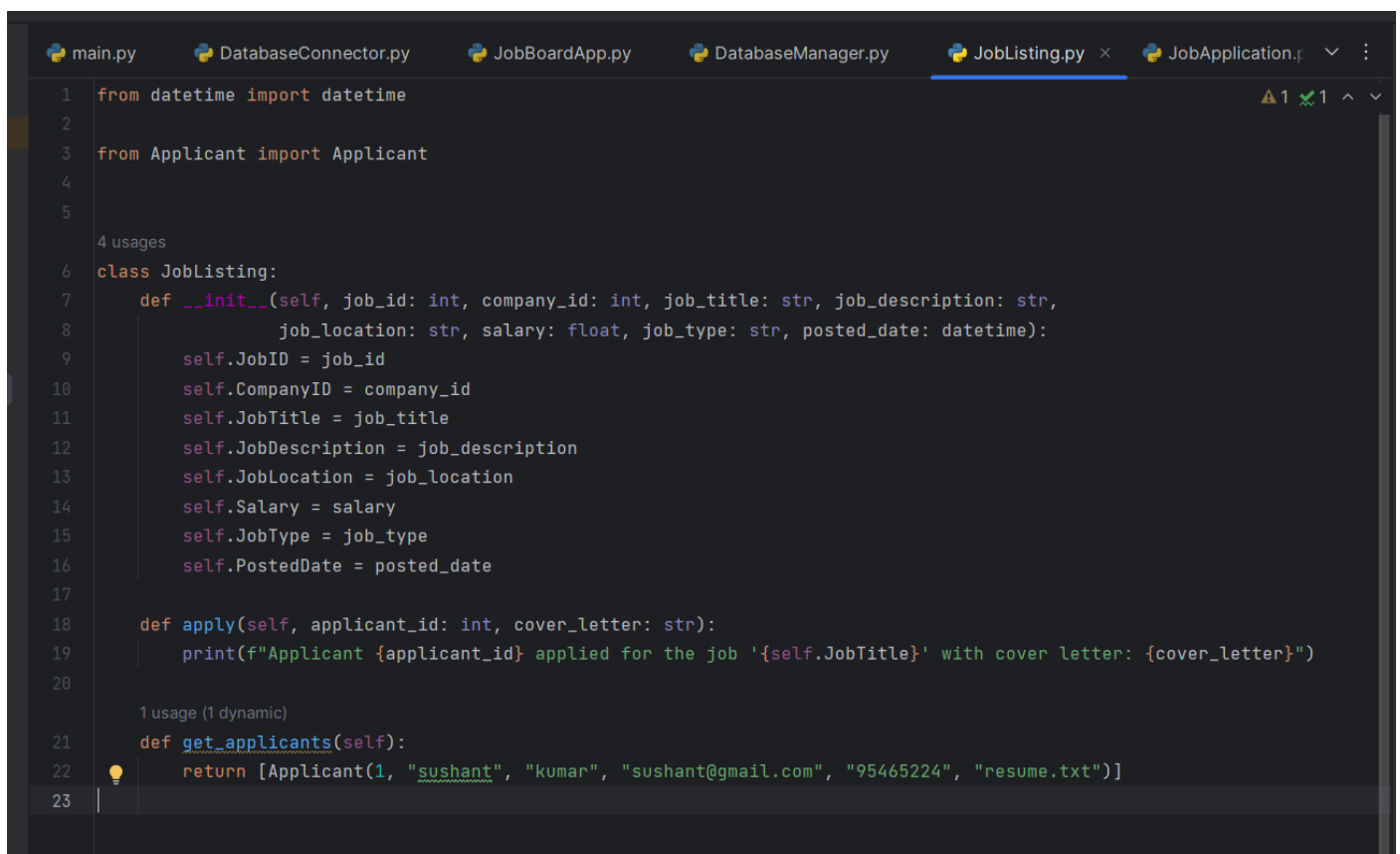
JobListing Class:

Attributes:

- JobID (int): A unique identifier for each job listing.
- CompanyID (int): A reference to the company offering the job.
- JobTitle (string): The title of the job.
- JobDescription (string): A detailed description of the job.
- JobLocation (string): The location of the job.
- Salary (decimal): The salary offered for the job.
- JobType (string): The type of job (e.g., Full-time, Part-time, Contract).
- PostedDate (DateTime): The date when the job was posted.

Methods:

- Apply(applicantID: int, coverLetter: string): Allows applicants to apply for the job by providing their ID and a cover letter.
- GetApplicants(): List<Applicant>: Retrieves a list of applicants who have applied for the job.



```
1 from datetime import datetime
2
3 from Applicant import Applicant
4
5
6 class JobListing:
7     def __init__(self, job_id: int, company_id: int, job_title: str, job_description: str,
8                 job_location: str, salary: float, job_type: str, posted_date: datetime):
9         self.JobID = job_id
10        self.CompanyID = company_id
11        self.JobTitle = job_title
12        self.JobDescription = job_description
13        self.JobLocation = job_location
14        self.Salary = salary
15        self.JobType = job_type
16        self.PostedDate = posted_date
17
18    def apply(self, applicant_id: int, cover_letter: str):
19        print(f'Applicant {applicant_id} applied for the job '{self.JobTitle}' with cover letter: {cover_letter}')
20
21    def get_applicants(self):
22        return [Applicant(1, "sushant", "kumar", "sushant@gmail.com", "95465224", "resume.txt")]
23
```

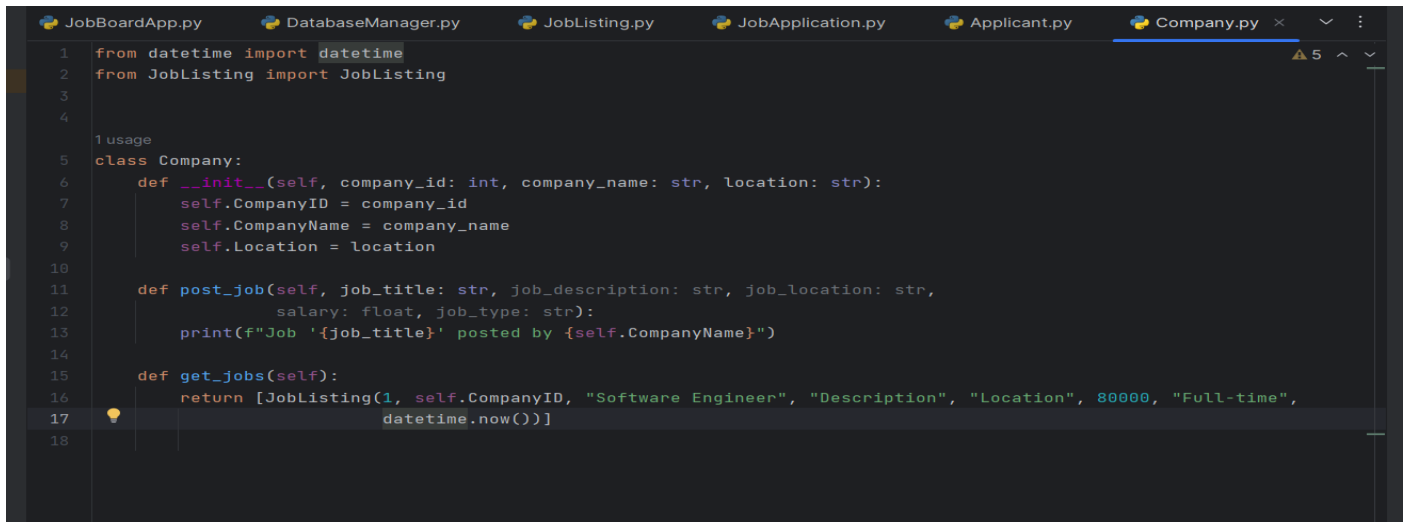
Company Class:

Attributes:

- CompanyID (int): A unique identifier for each company.
- CompanyName (string): The name of the hiring company.
- Location (string): The location of the company.

Methods:

- PostJob(jobTitle: string, jobDescription: string, jobLocation: string, salary: decimal, jobType: string): Allows a company to post a new job listing.
- GetJobs(): List<JobListing>: Retrieves a list of job listings posted by the company.



```
1 from datetime import datetime
2 from JobListing import JobListing
3
4
5 ! usage
6 class Company:
7     def __init__(self, company_id: int, company_name: str, location: str):
8         self.CompanyID = company_id
9         self.CompanyName = company_name
10        self.Location = location
11
12    def post_job(self, job_title: str, job_description: str, job_location: str,
13                salary: float, job_type: str):
14        print(f"Job '{job_title}' posted by {self.CompanyName}")
15
16    def get_jobs(self):
17        return [JobListing(1, self.CompanyID, "Software Engineer", "Description", "Location", 80000, "Full-time",
18                            datetime.now())]
```

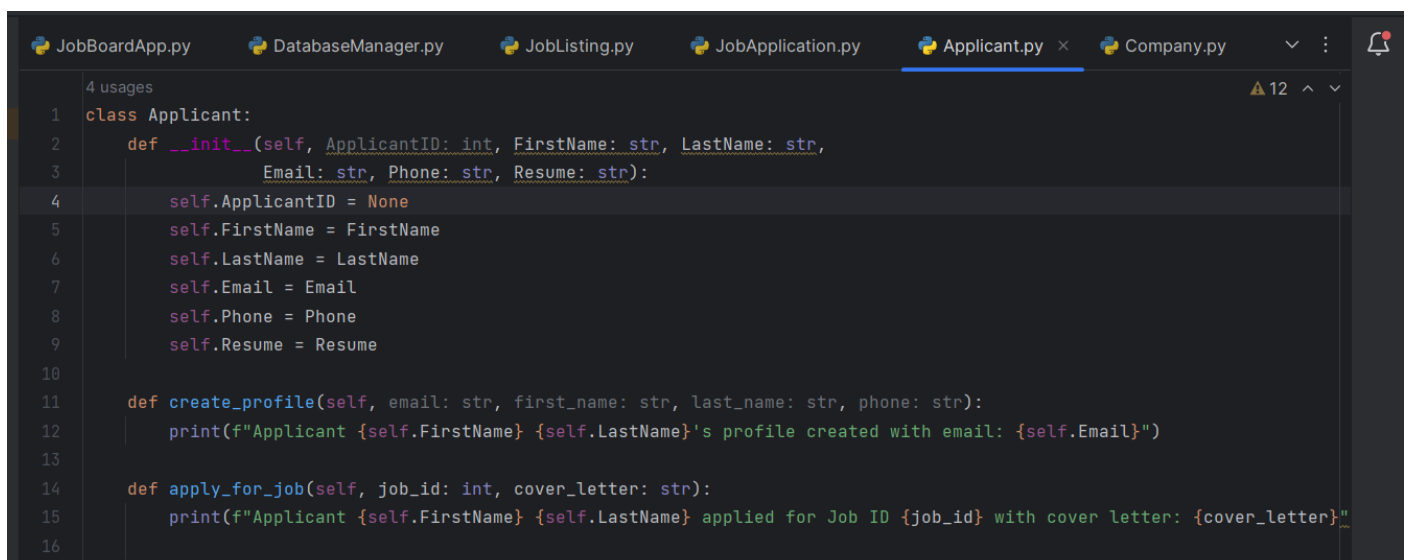
Applicant Class:

Attributes:

- ApplicantID (int): A unique identifier for each applicant.
- FirstName (string): The first name of the applicant.
- LastName (string): The last name of the applicant.
- Email (string): The email address of the applicant.
- Phone (string): The phone number of the applicant.
- Resume (string): The applicant's resume or a reference to the resume file.

Methods:

- CreateProfile(email: string, firstName: string, lastName: string, phone: string): Allows applicants to create a profile with their contact information.



```
1 4 usages
2 class Applicant:
3     def __init__(self, ApplicantID: int, FirstName: str, LastName: str,
4                 Email: str, Phone: str, Resume: str):
5         self.ApplicantID = None
6         self.FirstName = FirstName
7         self.LastName = LastName
8         self.Email = Email
9         self.Phone = Phone
10        self.Resume = Resume
11
12    def create_profile(self, email: str, first_name: str, last_name: str, phone: str):
13        print(f"Applicant {self.FirstName} {self.LastName}'s profile created with email: {self.Email}")
14
15    def apply_for_job(self, job_id: int, cover_letter: str):
16        print(f"Applicant {self.FirstName} {self.LastName} applied for Job ID {job_id} with cover letter: {cover_letter}")
```

JobApplication Class:

Attributes:

- ApplicationID (int): A unique identifier for each job application.
- JobID (int): A reference to the job listing.
- ApplicantID (int): A reference to the applicant.
- ApplicationDate (DateTime): The date and time when the application was submitted.
- CoverLetter (string): The cover letter submitted with the application.

```
1 from datetime import datetime
2
3
4 from datetime import datetime
5
6 2 usages
7 class JobApplication:
8     def __init__(self, application_id: int, job_id: int, applicant_id: int,
9         application_date: datetime, cover_letter: str):
10         self.ApplicationID = application_id
11         self.JobID = job_id
12         self.ApplicantID = applicant_id
13         self.ApplicationDate = application_date
14         self.CoverLetter = cover_letter
```

2.DatabaseManager Class:

Methods:

- InitializeDatabase(): Initializes the database schema and tables.
- InsertJobListing(job: JobListing): Inserts a new job listing into the "Jobs" table.
- InsertCompany(company: Company): Inserts a new company into the "Companies" table.
- InsertApplicant(applicant: Applicant): Inserts a new applicant into the "Applicants" table.
- InsertJobApplication(application: JobApplication): Inserts a new job application into the "Applications" table.
- GetJobListings(): List<JobListing>: Retrieves a list of all job listings.
- GetCompanies(): List<Company>: Retrieves a list of all companies.
- GetApplicants(): List<Applicant>: Retrieves a list of all applicants.
- GetApplicationsForJob(jobID: int): List<JobApplication>: Retrieves a list of job applications for a specific job listing.

```
JobBoardApp.py DatabaseManager.py x JobListing.py JobApplication.py Applicant.py Company.py
1 class DatabaseManager:
2     def __init__(self, db_connector):
3         self.db_connector = db_connector
4
5     1 usage (1 dynamic)
6     def get_job_listings(self):
7         return self.db_connector.get_data("Jobs")
8
9     1 usage (1 dynamic)
10    def get_companies(self):
11        return self.db_connector.get_data("Companies")
12
13    1 usage (1 dynamic)
14    def get_applicants(self):
15        return self.db_connector.get_data("Applicants")
16
17    1 usage (1 dynamic)
18    def get_applications_for_job(self, job_id):
19        return self.db_connector.get_data("Applications", condition=f"JobID={job_id}")
20
21    1 usage (1 dynamic)
22    def insert_job_listing(self, job_listing):
23        self.db_connector.insert_data("Jobs", job_listing.__dict__)
24
25    def insert_company(self, company):
26        self.db_connector.insert_data("Companies", company.__dict__)
27
28    1 usage (1 dynamic)
29    def insert_applicant(self, applicant):
30        self.db_connector.insert_data("Applicants", applicant.__dict__)
31
32    1 usage (1 dynamic)
33    def insert_job_application(self, job_application):
```

JOBBOARDAPP.PY CLASS

```
main.py DatabaseConnector.py JobBoardApp.py DatabaseManager.py JobListing.py JobApplication.py
1 from Applicant import Applicant
2 from JobListing import JobListing
3 from Company import Company
4 from JobApplication import JobApplication
5 from typing import List
6
7 class JobBoardApp:
8     def __init__(self, db_manager):
9         self.db_manager = db_manager
10
11     1 usage
12     def create_applicant_profile(self):
13         print("Enter your details to create a profile:")
14         email = input("Enter your email: ")
15         first_name = input("Enter your first name: ")
16         last_name = input("Enter your last name: ")
17         phone = input("Enter your phone number: ")
18
19         applicant_data = {
20             "ApplicantID": None,
21             "FirstName": first_name,
22             "LastName": last_name,
23             "Email": email,
24             "Phone": phone,
25             "Resume": "resume.txt"
26         }
27         self.db_manager.insert_applicant(Applicant(**applicant_data))
28
29         print("Applicant profile created successfully.")
30
```

```
main.py DatabaseConnector.py JobBoardApp.py DatabaseManager.py JobListing.py JobApplication.py
29 print("Applicant profile created successfully.")
30
31     1 usage
32     def apply_for_job(self):
33
34         print("Enter your details to apply for a job:")
35         job_id = int(input("Enter the Job ID you want to apply for: "))
36         cover_letter = input("Enter your cover letter: ")
37
38         applicant_id = 1
39
40
41         job_application = JobApplication(
42             JobID=job_id,
43             ApplicantID=applicant_id,
44             ApplicationDate="2022-02-10",
45             CoverLetter=cover_letter
46         )
47
48         self.db_manager.insert_job_application(job_application)
49
50         print(f"Applicant {applicant_id} applied for the job with ID {job_id} successfully.")
51
52     1 usage
53     def post_job_listing(self):
54
55         print("Enter job details to post a job listing:")
56         company_id = int(input("Enter your Company ID: "))
57         job_title = input("Enter the job title: ")
58         job_description = input("Enter the job description: ")
59         job_location = input("Enter the job location: ")
60
61         JobBoardApp : create_applicant_profile()

```

```
main.py DatabaseConnector.py JobBoardApp.py DatabaseManager.py JobListing.py JobApplication.py
60 salary = float(input("Enter the salary: "))
61 job_type = input("Enter the job type: ")
62
63
64     job_listing = JobListing(
65         CompanyID=company_id,
66         JobTitle=job_title,
67         JobDescription=job_description,
68         JobLocation=job_location,
69         Salary=salary,
70         JobType=job_type,
71         PostedDate="2022-02-10"
72     )
73
74
75     self.db_manager.insert_job_listing(job_listing)
76
77     print("Job listing posted successfully.")
78
79     1 usage
80     def view_job_listings(self):
81
82         job_listings = self.db_manager.get_job_listings()
83
84         if not job_listings:
85             print("No job listings available.")
86         else:
87             print("Job Listings:")
88             for job in job_listings:
89                 print(f"JobID: {job['JobID']}, Title: {job['JobTitle']}, Company: {job['CompanyID']}, Salary: {job['Salary']}")
90
91     def view_companies(self):

```

```

110         print(f"ApplicantID: {applicant['ApplicantID']}, Name: {applicant['FirstName']} {applicant['LastName']}, Email: {applicant['Email']}")
111
112     def view_applications_for_job(self):
113
114         job_id = int(input("Enter the Job ID to view applications: "))
115         applications = self.db_manager.get_applications_for_job(job_id)
116
117         if not applications:
118             print(f"No applications for JobID {job_id}.")
119         else:
120             print(f"Applications for JobID {job_id}:")
121             for application in applications:
122                 print(f"ApplicationID: {application['ApplicationID']}, ApplicantID: {application['ApplicantID']}, Date: {application['ApplicationDate']}")
123
124
125

```

MAIN.PY CLASS

```

main.py DatabaseConnector.py JobBoardApp.py DatabaseManager.py JobListing.py JobApplication.py
89
90     def view_companies(self):
91
92         companies = self.db_manager.get_companies()
93
94         if not companies:
95             print("No companies available.")
96         else:
97             print("Companies:")
98             for company in companies:
99                 print(f"CompanyID: {company['CompanyID']}, Name: {company['CompanyName']}, Location: {company['Location']}")
100
101     def view_applicants(self):
102
103         applicants = self.db_manager.get_applicants()
104
105         if not applicants:
106             print("No applicants available.")
107         else:
108             print("Applicants:")
109             for applicant in applicants:
110                 print(f"ApplicantID: {applicant['ApplicantID']}, Name: {applicant['FirstName']} {applicant['LastName']}, Email: {applicant['Email']}")
111
112     def view_applications_for_job(self):
113
114         job_id = int(input("Enter the Job ID to view applications: "))
115         applications = self.db_manager.get_applications_for_job(job_id)
116
117         if not applications:
118             print(f"No applications for JobID {job_id}.")
119         else:
120             print(f"Applications for JobID {job_id}:")
121             for application in applications:
122                 print(f"ApplicationID: {application['ApplicationID']}, ApplicantID: {application['ApplicantID']}, Date: {application['ApplicationDate']}")
123
124
125

```

```

1
2 from DatabaseManager import DatabaseManager
3 from JobBoardApp import JobBoardApp
4 from DatabaseConnector import DatabaseConnector
5
6 3 usages
7 def print_options(options):
8     for key, value in options.items():
9         print(f"{key}. {value}")
10
11 1 usage
12 def main():
13     db_connector = DatabaseConnector()
14     db_connector.initialize_database()
15     db_manager = DatabaseManager(db_connector)
16     job_board_app = JobBoardApp(db_manager)
17
18     while True:
19         print("Job Board Application Main Menu:")
20         print_options({"1": "Applicant Actions", "2": "Company Actions", "0": "Exit"})
21
22         choice = input("Enter your choice (0-2): ")
23
24         if choice == "0":
25             print("Exiting the Job Board Application. Goodbye!")
26             break
27         elif choice == "1":
28             while True:
29                 print("Applicant Actions:")
30                 print_options({"1": "Create Profile", "2": "Apply for Job", "0": "Go Back"})

```

```

main.py x DatabaseConnector.py JobBoardApp.py InvalidEmailFormatError.py NegativeSalaryError.py
29 applicant_choice = input("Enter your choice (0-2): ")
30
31 if applicant_choice == "0":
32     break
33 elif applicant_choice == "1":
34     job_board_app.create_applicant_profile()
35 elif applicant_choice == "2":
36     job_board_app.apply_for_job()
37 else:
38     print("Invalid choice. Please enter a valid option.")
39
40 elif choice == "2":
41     while True:
42         print("Company Actions:")
43         print_options({"1": "Post Job Listing", "2": "View Job Listings", "0": "Go Back"})
44         company_choice = input("Enter your choice (0-2): ")
45
46         if company_choice == "0":
47             break
48         elif company_choice == "1":
49             job_board_app.post_job_listing()
50         elif company_choice == "2":
51             job_board_app.view_job_listings()
52         else:
53             print("Invalid choice. Please enter a valid option.")
54     else:
55         print("Invalid choice. Please enter a valid option.")
56
57 if __name__ == "__main__":
58     main()

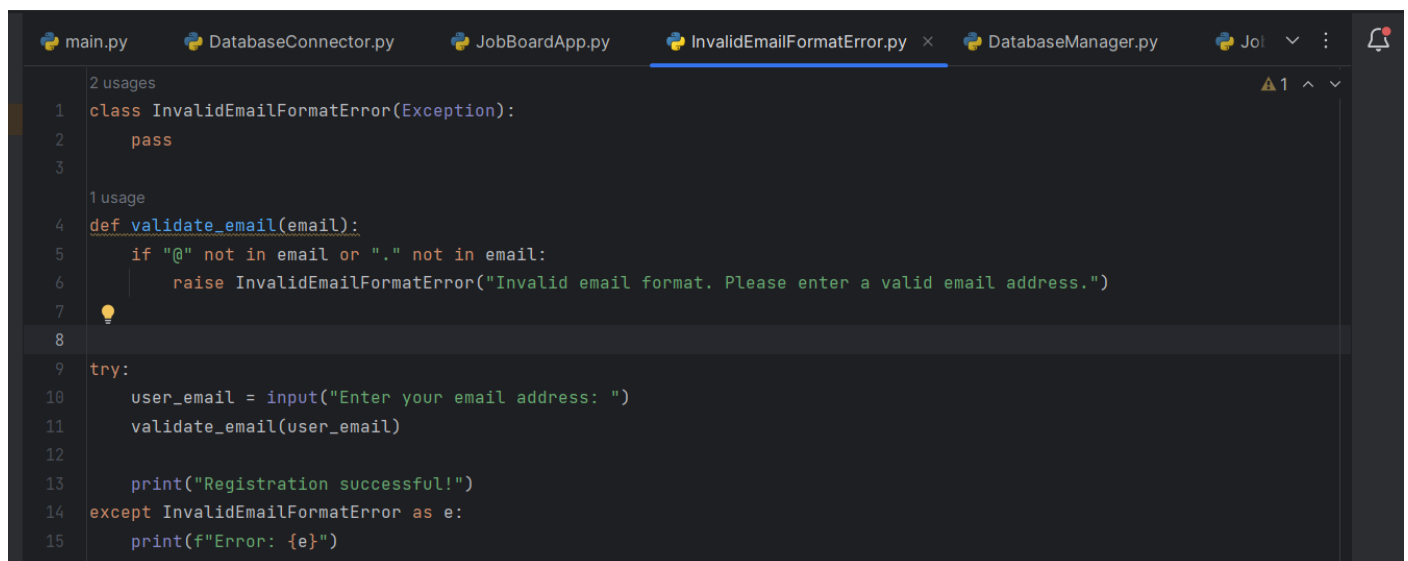
```

3.Exceptions handling

Create and implement the following exceptions in your application.

- **Invalid Email Format Handling:**

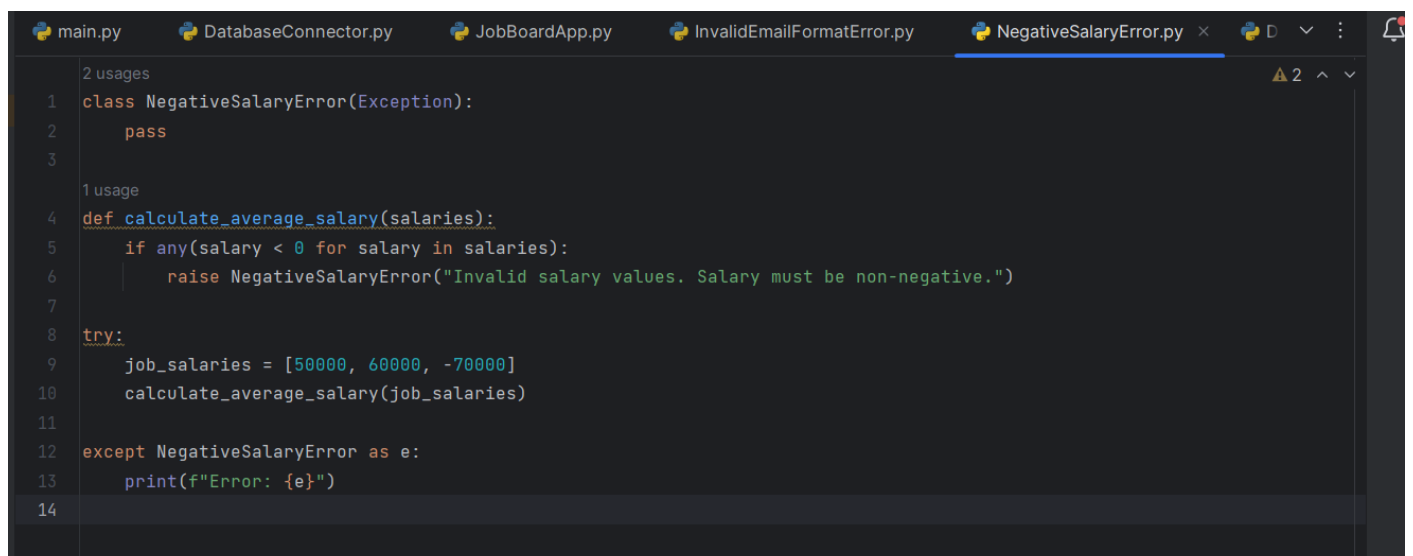
o In the Job Board application, during the applicant registration process, users are required to enter their email addresses. Write a program that prompts the user to input an email address and implement exception handling to ensure that the email address follows a valid format (e.g., contains "@" and a valid domain). If the input is not valid, catch the exception and display an error message. If it is valid, proceed with registration



```
main.py DatabaseConnector.py JobBoardApp.py InvalidEmailFormatError.py DatabaseManager.py
1 class InvalidEmailFormatError(Exception):
2     pass
3
4 def validate_email(email):
5     if "@" not in email or "." not in email:
6         raise InvalidEmailFormatError("Invalid email format. Please enter a valid email address.")
7
8
9 try:
10     user_email = input("Enter your email address: ")
11     validate_email(user_email)
12
13     print("Registration successful!")
14 except InvalidEmailFormatError as e:
15     print(f"Error: {e}")
```

- **Salary Calculation Handling:**

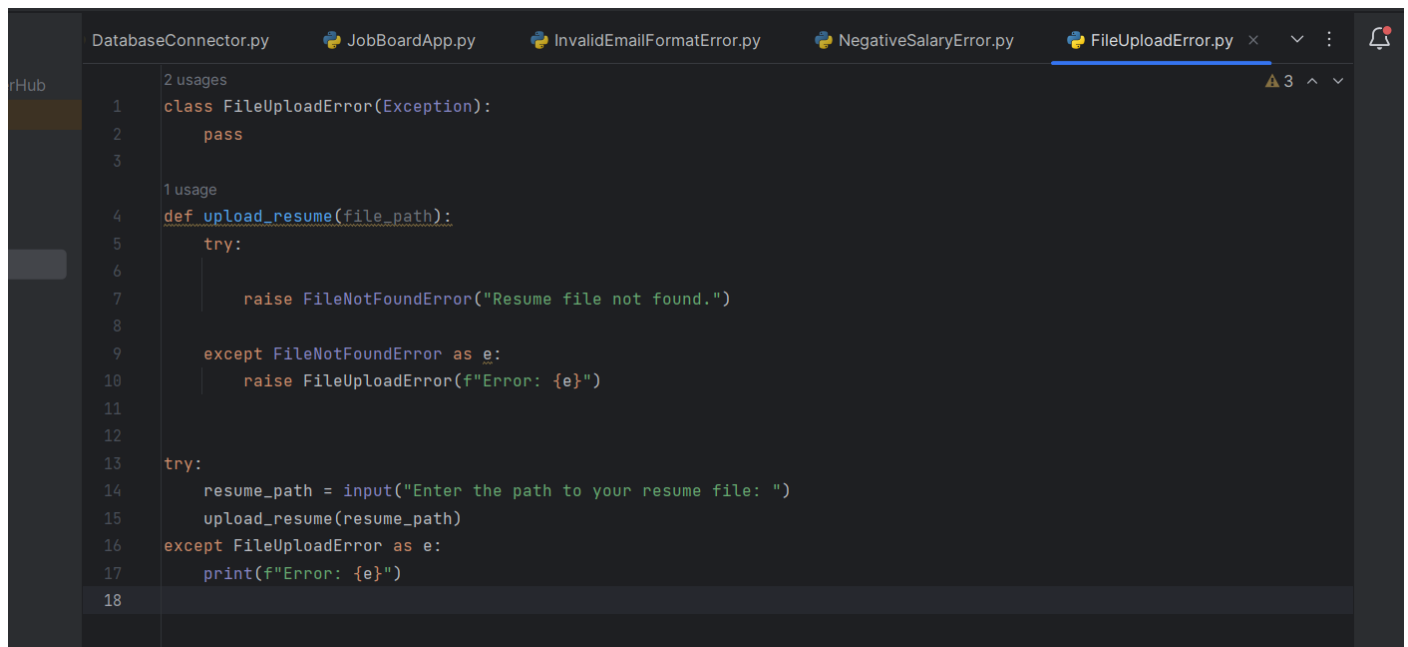
o Create a program that calculates the average salary offered by companies for job listings. Implement exception handling to ensure that the salary values are non-negative when computing the average. If any salary is negative or invalid, catch the exception and



```
main.py DatabaseConnector.py JobBoardApp.py InvalidEmailFormatError.py NegativeSalaryError.py
1 class NegativeSalaryError(Exception):
2     pass
3
4 def calculate_average_salary(salaries):
5     if any(salary < 0 for salary in salaries):
6         raise NegativeSalaryError("Invalid salary values. Salary must be non-negative.")
7
8 try:
9     job_salaries = [50000, 60000, -70000]
10    calculate_average_salary(job_salaries)
11
12 except NegativeSalaryError as e:
13     print(f"Error: {e}")
14
```

- **File Upload Exception Handling:**

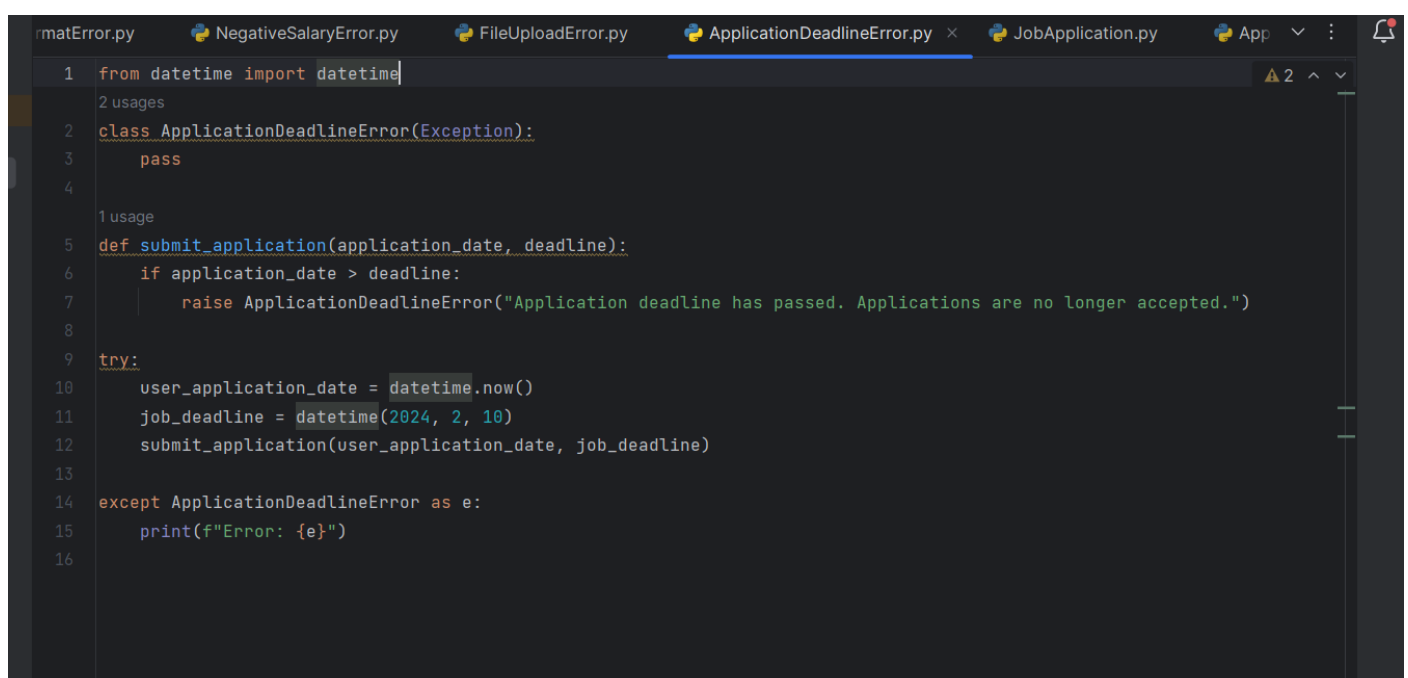
o In the Job Board application, applicants can upload their resumes as files. Write a program that handles file uploads and implements exception handling to catch and handle potential errors, such as file not found, file size exceeded, or file format not supported. Provide appropriate error messages in each case.



```
DatabaseConnector.py  JobBoardApp.py  InvalidEmailFormatError.py  NegativeSalaryError.py  FileUploadError.py x 3 ^ v
1 2 usages
2 class FileUploadError(Exception):
3     pass
4
5 1 usage
6 def upload_resume(file_path):
7     try:
8         raise FileNotNotFoundError("Resume file not found.")
9
10    except FileNotNotFoundError as e:
11        raise FileUploadError(f"Error: {e}")
12
13    try:
14        resume_path = input("Enter the path to your resume file: ")
15        upload_resume(resume_path)
16    except FileUploadError as e:
17        print(f"Error: {e}")
18
```

• Application Deadline Handling:

o Develop a program that checks whether a job application is submitted before the application deadline. Implement exception handling to catch situations where an applicant tries to submit an application after the deadline has passed. Display a message indicating that the application is no longer accepted.



```
InvalidEmailFormatError.py  NegativeSalaryError.py  FileUploadError.py  ApplicationDeadlineError.py x 2 ^ v  JobApplication.py  App ^ v
1 from datetime import datetime
2 usages
3 class ApplicationDeadlineError(Exception):
4     pass
5
6 1 usage
7 def submit_application(application_date, deadline):
8     if application_date > deadline:
9         raise ApplicationDeadlineError("Application deadline has passed. Applications are no longer accepted.")
10
11    try:
12        user_application_date = datetime.now()
13        job_deadline = datetime(2024, 2, 10)
14        submit_application(user_application_date, job_deadline)
15    except ApplicationDeadlineError as e:
16        print(f"Error: {e}")
17
```

- **Database Connection Handling:**

o In the Job Board application, database connectivity is crucial. Create a program that establishes a connection to the database to retrieve job listings. Implement exception handling to catch database-related exceptions, such as connection errors or SQL query errors. Display appropriate error messages and ensure graceful handling of these exceptions.



```
DatabaseConnectionError.py
2 usages
1 class DatabaseConnectionError(Exception):
2     pass
3
1 usage
4 def connect_to_database():
5     try:
6
7         raise ConnectionError("Unable to connect to the database.")
8
9     except ConnectionError as e:
10         raise DatabaseConnectionError(f"Error: {e}")
11
12 try:
13     connect_to_database()
14
15 except DatabaseConnectionError as e:
16     print(f"Error: {e}")
17
```

4.Database Connectivity

Create and implement the following tasks in your application.

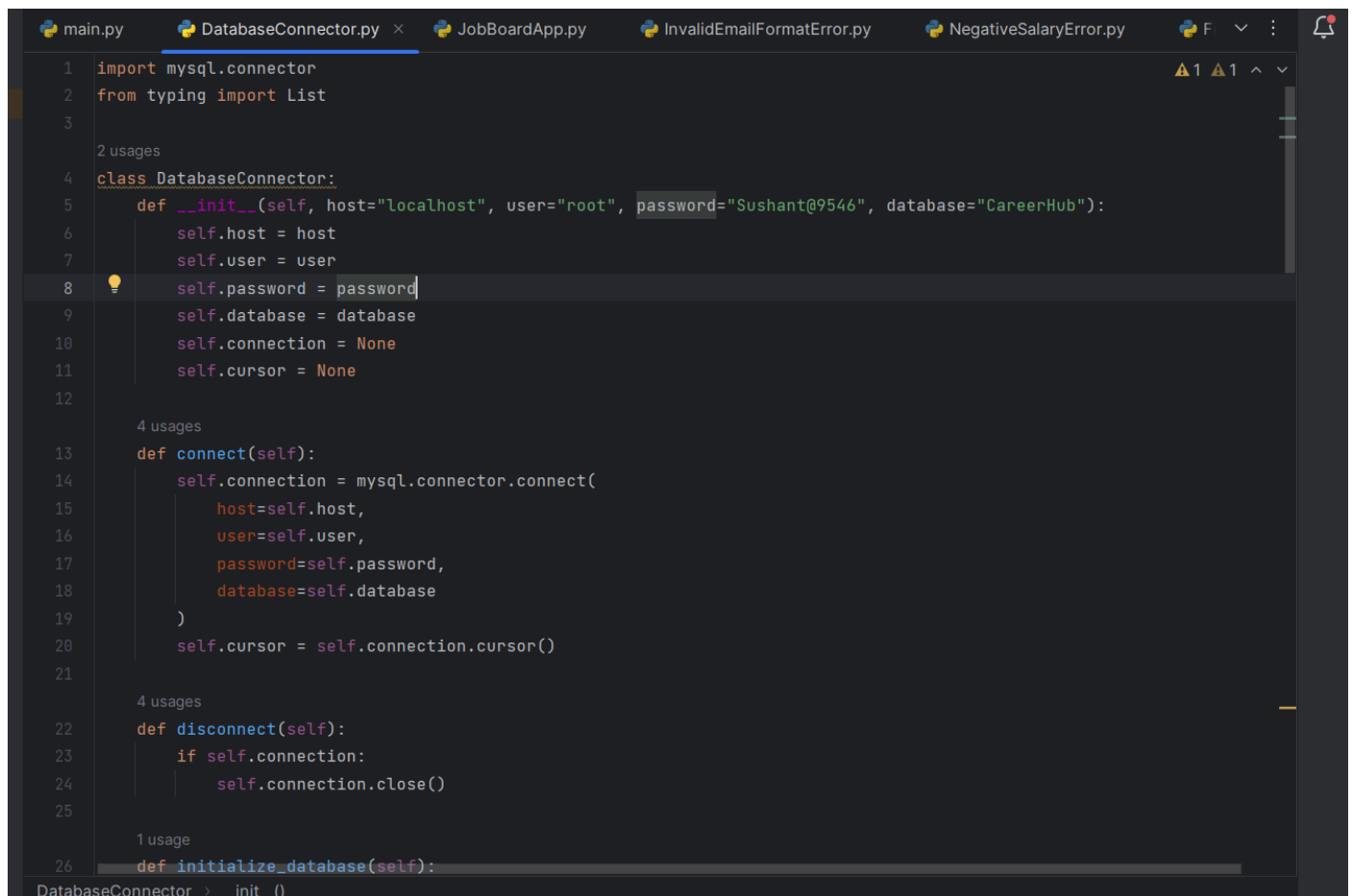
Job Listing Retrieval: Write a program that connects to the database and retrieves all job listings from the "Jobs" table. Implement database connectivity using Entity Framework and display the job titles, company names, and salaries.

Applicant Profile Creation: Create a program that allows applicants to create a profile by entering their information. Implement database connectivity to insert the applicant's data into the "Applicants" table. Handle potential database-related exceptions.

Job Application Submission: Develop a program that allows applicants to apply for a specific job listing. Implement database connectivity to insert the job application details into the "Applications" table, including the applicant's ID and the job ID. Ensure that the program handles database connectivity and insertion exceptions.

Company Job Posting: Write a program that enables companies to post new job listings. Implement database connectivity to insert job listings into the "Jobs" table, including the company's ID. Handle database-related exceptions and ensure the job posting is successful.

Salary Range Query: Create a program that allows users to search for job listings within a specified salary range. Implement database connectivity to retrieve job listings that match the user's criteria, including job titles, company names, and salaries. Ensure the program handles database connectivity and query exceptions.



```
1 import mysql.connector
2 from typing import List
3
4 class DatabaseConnector:
5     def __init__(self, host="localhost", user="root", password="Sushant@9546", database="CareerHub"):
6         self.host = host
7         self.user = user
8         self.password = password
9         self.database = database
10        self.connection = None
11        self.cursor = None
12
13    def connect(self):
14        self.connection = mysql.connector.connect(
15            host=self.host,
16            user=self.user,
17            password=self.password,
18            database=self.database
19        )
20        self.cursor = self.connection.cursor()
21
22    def disconnect(self):
23        if self.connection:
24            self.connection.close()
25
26    def initialize_database(self):
27        DatabaseConnector > __init__()
```

```
main.py DatabaseConnector.py x JobBoardApp.py InvalidEmailFormatError.py NegativeSalaryError.py F v :
25
26 1 usage
27 def initialize_database(self):
28     self.connect()
29
30     # Create Jobs table
31     self.cursor.execute('''
32         CREATE TABLE IF NOT EXISTS Jobs (
33             JobID INT AUTO_INCREMENT PRIMARY KEY,
34             CompanyID INT,
35             JobTitle VARCHAR(255),
36             JobDescription TEXT,
37             JobLocation VARCHAR(255),
38             Salary DECIMAL(10, 2),
39             JobType VARCHAR(50),
40             PostedDate DATETIME
41         )
42     ''')
43
44     # Create Companies table
45     self.cursor.execute('''
46         CREATE TABLE IF NOT EXISTS Companies (
47             CompanyID INT AUTO_INCREMENT PRIMARY KEY,
48             CompanyName VARCHAR(255),
49             Location VARCHAR(255)
50         )
51     ''')
52
53     # Create Applicants table
54     self.cursor.execute(''
```

```
main.py DatabaseConnector.py x JobBoardApp.py InvalidEmailFormatError.py NegativeSalaryError.py F v :
48         Location VARCHAR(255)
49     )
50 ''')
51
52 # Create Applicants table
53 self.cursor.execute(''
54     CREATE TABLE IF NOT EXISTS Applicants (
55         ApplicantID INT AUTO_INCREMENT PRIMARY KEY,
56         FirstName VARCHAR(255),
57         LastName VARCHAR(255),
58         Email VARCHAR(255),
59         Phone VARCHAR(20),
60         Resume VARCHAR(255)
61     )
62 ''')
63
64 # Create Applications table
65 self.cursor.execute(''
66     CREATE TABLE IF NOT EXISTS Applications (
67         ApplicationID INT AUTO_INCREMENT PRIMARY KEY,
68         JobID INT,
69         ApplicantID INT,
70         ApplicationDate DATETIME,
71         CoverLetter TEXT,
72         FOREIGN KEY(JobID) REFERENCES Jobs(JobID),
73         FOREIGN KEY(ApplicantID) REFERENCES Applicants(ApplicantID)
74     )
75 ''')
76
77 self.connection.commit()
```

```

75         '''
76
77         self.connection.commit()
78         self.disconnect()
79
80     4 usages (4 dynamic)
81     def insert_data(self, table_name, data):
82         self.connect()
83         columns = ', '.join(data.keys())
84         values = ', '.join(['%s' for _ in range(len(data))])
85         query = f'INSERT INTO {table_name} ({columns}) VALUES ({values})'
86         self.cursor.execute(query, list(data.values()))
87         self.connection.commit()
88         self.disconnect()
89
90     def update_data(self, table_name, data, condition):
91         self.connect()
92         set_values = ', '.join([f'{key}=%s' for key, value in data.items()])
93         condition = ' AND '.join([f'{key}=%s' for key, value in condition.items()])
94         query = f'UPDATE {table_name} SET {set_values} WHERE {condition}'
95         self.cursor.execute(query, list(data.values()) + list(condition.values()))
96         self.connection.commit()
97         self.disconnect()
98
99     4 usages (4 dynamic)
100     def get_data(self, table_name, columns=None, condition=None) -> List[dict]:
101         self.connect()
102         if columns:

```

```

91         set_values = ', '.join([f'{key}=%s' for key, value in data.items()])
92         condition = ' AND '.join([f'{key}=%s' for key, value in condition.items()])
93         query = f'UPDATE {table_name} SET {set_values} WHERE {condition}'
94         self.cursor.execute(query, list(data.values()) + list(condition.values()))
95         self.connection.commit()
96         self.disconnect()
97
98     4 usages (4 dynamic)
99     def get_data(self, table_name, columns=None, condition=None) -> List[dict]:
100         self.connect()
101         if columns:
102             columns = ', '.join(columns)
103         else:
104             columns = '*'
105
106         query = f'SELECT {columns} FROM {table_name}'
107         if condition:
108             query += f' WHERE {condition}'
109
110         self.cursor.execute(query)
111         result = [dict(zip([column[0] for column in self.cursor.description], row)) for row in self.cursor.fetchall()]
112         self.disconnect()
113         return result

```

PROGRAM INPUT/OUTPUT

```
Run  main x DatabaseConnector x
C:\Users\ssush\PycharmProjects\CareerHub\venv\Scripts\python.exe C:\Users\ssush\PycharmProjects\CareerHub\main.py
Job Board Application Main Menu:
1. Applicant Actions
2. Company Actions
0. Exit
Enter your choice (0-2): 1
Applicant Actions:
1. Create Profile
2. Apply for Job
0. Go Back
Enter your choice (0-2): 1
Enter your details to create a profile:
Enter your email: aman@yahoo.com
Enter your first name: Aman
Enter your last name: Patil
Enter your phone number: 965425354
Applicant profile created successfully.
Applicant Actions:
1. Create Profile
2. Apply for Job
0. Go Back
Enter your choice (0-2):
```

OUR GIVEN INPUT SUCSESSEFULL SAVEED IN OUR DATABASE



```
mysql> use careerhub;
Database changed
mysql> show tables;
+-----+
| Tables_in_careerhub |
+-----+
| applicants           |
| applications         |
| companies            |
| jobs                 |
+-----+
4 rows in set (0.01 sec)

mysql> SELECT * FROM APPLICANTS;
+-----+-----+-----+-----+-----+-----+
| ApplicantID | FirstName | LastName | Email           | Phone   | Resume   |
+-----+-----+-----+-----+-----+-----+
| 1           | Sushant  | Singh   | sushant@gmail.com | 965425458 | resume.txt |
| 2           | rama     | chandra | rama@gmail.com    | 95462352  | resume.txt |
| 3           | Anu      | Singh   | ahs@yahoo.com     | 96532548  | resume.txt |
| 4           | Aman     | Patil   | aman@yahoo.com     | 965425354 | resume.txt |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

OTHER TABLES SAVED IN DATABASE

```
mysql> SELECT * FROM JOBS;
```

JobID	CompanyID	JobTitle	JobDescription	JobLocation	Salary	JobType	PostedDate
1	101	SDE	Development	Mumbai	90000.00	SDE	2024-01-03 00:00:00
2	102	Tester	testing	Delhi	40000.00	testing	2024-01-03 00:00:00
3	103	Engineer	Development	TN	60000.00	R&D	2024-01-23 00:00:00

```
3 rows in set (0.00 sec)
```

```
mysql> _
```

```
mysql> SELECT * FROM applications;  
Empty set (0.01 sec)
```

```
mysql> SELECT * FROM companies;
```

CompanyID	CompanyName	Location
101	Google	Mumbai
102	Hexaware	Pune
103	Amazon	Hydrabad

```
3 rows in set (0.00 sec)
```

*****THANKYOU*****