

Programming Tasks:

1. Login:

- Implement an interface with two text input sections for username and password inputs.
- Create method to search database using username to find credentials to check against.
- Create method to obtain admin and employee status from login info
- Make login button that checks documented and inputted passwords against each other.
- Approve or deny login based on whether a match exists, and login as admin or employee.

2. Search for employees:

- Implement a dropdown input to define which parameters to search in.
- Implement search bar that takes admin input for search.
- Create a method that can search database for employees using select state with the parameter.
- Create a display to show employees info.

3. Update employee data

- Click method that obtains empid from clicked employee in search list.
- Implement update data input bar
- Implement update data dropdown input
- Create button with method for updating data.
- Make update statement using searched employee

4. Update employee salary

- Takes percentage when both search bar and update employee data bar are using the parameter update salary.
- Update employee data bar takes percentage within certain range. ($10,000 < x < 15,000$)
- Search bar takes range of salary that will be updated
- If the percentage value is too large then an error message is given
- Uses update method to update salary by multiplying using percentage increase from update employee bar.

5. Make reports

- Make a selection statement showing all employee data
- Make different displays using different data from all employees for admin (total pay by month: job title or division).
- Make report showing employee id and pay statement history (single for employee and all for admin).

Test cases:

Update employees:

- a. User tries to input a negative number for any int: "Error: Please enter a positive number"
- b. Failed to update:
"Error: failed to update"
- c. Input wrong data type:
"Data type not valid"
- d. No selected employee:

"No employee selected for update"

e. Success (Correct datatype, database connection, inputted parameter, got specific employee.)

Search employees:

a. Search for nonexistent data entry:

"No employee matches with set data entry"

b. Using SQL injection statement in search:

"Error, Injection attack found. Please enter valid query."

c. General error:

"Error during search"

d. Invalid salary range:

"Input invalid salary"

e. Successful search (at least one value search for within parameter)

"Admin search successful."

Salary Update:

a. No selected employee in salary range:

"No employee selected for update"

b. Percentage over limit for salary increase:

"Percentage over limit for salary increase"

c. Negative salary:

"Error: decreased into negative range"

d. Success (Correct datatype, database connection, inputted parameter, got at least one employee.)