Email Validator Program

The Email Search Program is a Java application designed to validate and search for email IDs entered by the user within a predefined array of email addresses. This program serves as a valuable tool for verifying the existence of email IDs within a dataset, which can be particularly useful in scenarios such as employee directories, customer databases, or contact lists.

Features:

1. **Email Validation**: Before searching for an email ID, the program validates the format of the entered email address to ensure it conforms to standard email conventions. It checks for the presence of an "@" symbol, valid characters in the local and domain parts, and a valid top-level domain (TLD) extension.

2. **Search Functionality**: The program allows users to input an email ID they wish to search for. Upon submission, it checks if the entered email ID exists within the predefined array of email addresses. If found, it indicates that the email ID is valid and present in the array. If not found, it notifies the user that the email ID is valid but not present in the dataset.

3. **Predefined Array of Email IDs**: The program comes with a predefined array of email addresses, including a variety of domain names such as Gmail, Yahoo, Outlook, Hotmail, iCloud, AOL, ProtonMail, Zoho, Inbox.lv, and Mail.com. These email addresses ensure a diverse set of data for testing the program's functionality.

Sample Usage:

1. **Validation and Search**: Users can enter an email ID they want to validate and search for within the dataset. The program will provide feedback on whether the email ID is valid and if it exists within the predefined array.

2. **Error Handling**: If users input an email ID with an invalid format (e.g., missing "@" symbol or incorrect characters), the program will notify them that the email ID is invalid and prompt them to enter a valid one.

Conclusion: The Email Search Program offers a convenient and efficient solution for validating and searching email IDs within a dataset. With its robust email validation mechanism and comprehensive search functionality, it provides users with confidence in verifying the existence of email addresses. This program can be utilized in various applications, including contact management systems, email marketing platforms, and user authentication processes, enhancing data integrity and user experience.

Algorithm: -

1. **Start**: Begin the execution of the program.

2. **Define Predefined Array of Email IDs**: Create an array **emailArray** containing predefined email addresses, including a variety of domain names.

3. **Prompt User Input**: Display a message prompting the user to enter an email ID to search.

4. **Read User Input**: Retrieve the email ID entered by the user and store it in a variable, let's call it **userInput**.

5. **Validate Email Format**:

   - Use regular expressions to validate the format of **userInput**.

   - Check for the presence of an "@" symbol, valid characters in the local and domain parts, and a valid top-level domain (TLD) extension.

   - If the email format is invalid, display an error message and end the program.

6. **Search Email ID**:

   - Iterate through each email address in **emailArray**.

   - If **userInput** matches any email address in the array, set a flag **found** to true and break out of the loop.

7. **Display Search Result**:

   - If **found** is true, display a message indicating that the email ID is valid and found in the array.

   - If **found** is false, display a message indicating that the email ID is valid but not found in the array.

8. **End**: Terminate the execution of the program.