Question 2: Bank Management System

Index.html

Code:

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Bank Management System</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

  <div id="login-section">
    <h2>Login to Your Bank Account</h2>
    <input type="text" id="account-name" placeholder="Enter your name">
    <button id="login-btn">Login</button>
    <button id="create-account-btn">Create New Account</button>
  </div>

  <div id="account-section" style="display: none;">
    <h2>Welcome, <span id="account-holder-name"></span></h2>
    <p>Your current balance is: $<span id="balance">0</span></p>
    <input type="number" id="deposit-amount" placeholder="Amount to deposit">
    <button id="deposit-btn">Deposit</button>
    <input type="number" id="withdraw-amount" placeholder="Amount to withdraw">
```

```
    <button id="withdraw-btn">Withdraw</button>
    <button id="logout-btn">Logout</button>
  </div>

  <script type="module" src="main.js"></script>

</body>
</html>
```

Styles.css:

Code:

```
body {
    font-family: 'Georgia', serif;
    background-color: #f4f4f4;
    margin: 0;
    padding: 0;
    text-align: center;
}

h2 {
    margin-top: 30px;
    color: #333;
    font-weight: bold;
}

#login-section, #account-section {
    margin-top: 50px;
```

```
    background-color: #ffffff;
    border-radius: 12px;
    box-shadow: 0 6px 12px rgba(0, 0, 0, 0.15);
    padding: 30px;
    max-width: 450px;
    margin-left: auto;
    margin-right: auto;
}

input {
    margin: 15px 0;
    padding: 12px;
    font-size: 18px;
    border: 1px solid #ccc;
    border-radius: 6px;
    width: calc(100% - 30px);
}

input:focus {
    border-color: #007BFF;
    outline: none;
}

button {
    padding: 12px 24px;
    font-size: 18px;
    cursor: pointer;
    background-color: #007BFF;
    color: white;
```

```
    border: none;
    border-radius: 6px;
    transition: background-color 0.3s ease, transform 0.2s ease;
}

button:hover {
    background-color: #0056b3;
    transform: translateY(-2px);
}

button:active {
    transform: translateY(1px);
}

p {
    color: #555;
}

#account-holder-name {
    font-weight: bold;
}
```

Main.js

Code:

```
import BankAccount from './bankAccount.js';

let currentAccount = null;
```

```
let accounts = JSON.parse(localStorage.getItem('accounts')) || {};

Object.keys(accounts).forEach(accountName => {
  const account = accounts[accountName];
  accounts[accountName] = new BankAccount(account.accountHolder, account.balance);
});

const loginSection = document.getElementById('login-section');
const accountSection = document.getElementById('account-section');
const accountNameInput = document.getElementById('account-name');
const depositInput = document.getElementById('deposit-amount');
const withdrawInput = document.getElementById('withdraw-amount');
const balanceDisplay = document.getElementById('balance');
const accountHolderNameDisplay = document.getElementById('account-holder-name');

document.getElementById('login-btn').addEventListener('click', () => {
  const accountName = accountNameInput.value.trim();
  if (accounts[accountName]) {
    currentAccount = accounts[accountName];
    loginSection.style.display = 'none';
    accountSection.style.display = 'block';
    accountHolderNameDisplay.innerText = currentAccount.accountHolder;
    balanceDisplay.innerText = currentAccount.balance;
  } else {
    alert('Account not found. Please create an account first.');
  }
});

document.getElementById('create-account-btn').addEventListener('click', () => {
```

```
  const accountName = accountNameInput.value.trim();
  if (accountName && !accounts[accountName]) {
    const newAccount = new BankAccount(accountName);
    accounts[accountName] = newAccount;
    localStorage.setItem('accounts', JSON.stringify(accounts));
    alert('Account created successfully! You can now log in.');
  } else {
    alert('Invalid name or account already exists.');
  }
});

document.getElementById('deposit-btn').addEventListener('click', () => {
  const amount = parseFloat(depositInput.value);
  if (isNaN(amount) || amount <= 0) {
    alert('Please enter a valid deposit amount.');
  } else {
    const message = currentAccount.deposit(amount);
    balanceDisplay.innerText = currentAccount.balance;
    alert(message);
    localStorage.setItem('accounts', JSON.stringify(accounts));
  }
});

document.getElementById('withdraw-btn').addEventListener('click', () => {
  const amount = parseFloat(withdrawInput.value);
  if (isNaN(amount) || amount <= 0) {
    alert('Please enter a valid withdrawal amount.');
  } else {
    const message = currentAccount.withdraw(amount);
```

```
    balanceDisplay.innerText = currentAccount.balance;
    alert(message);
    localStorage.setItem('accounts', JSON.stringify(accounts));
  }
});

document.getElementById('logout-btn').addEventListener('click', () => {
  loginSection.style.display = 'block';
  accountSection.style.display = 'none';
  accountNameInput.value = '';
});
```

bankAccount.js:

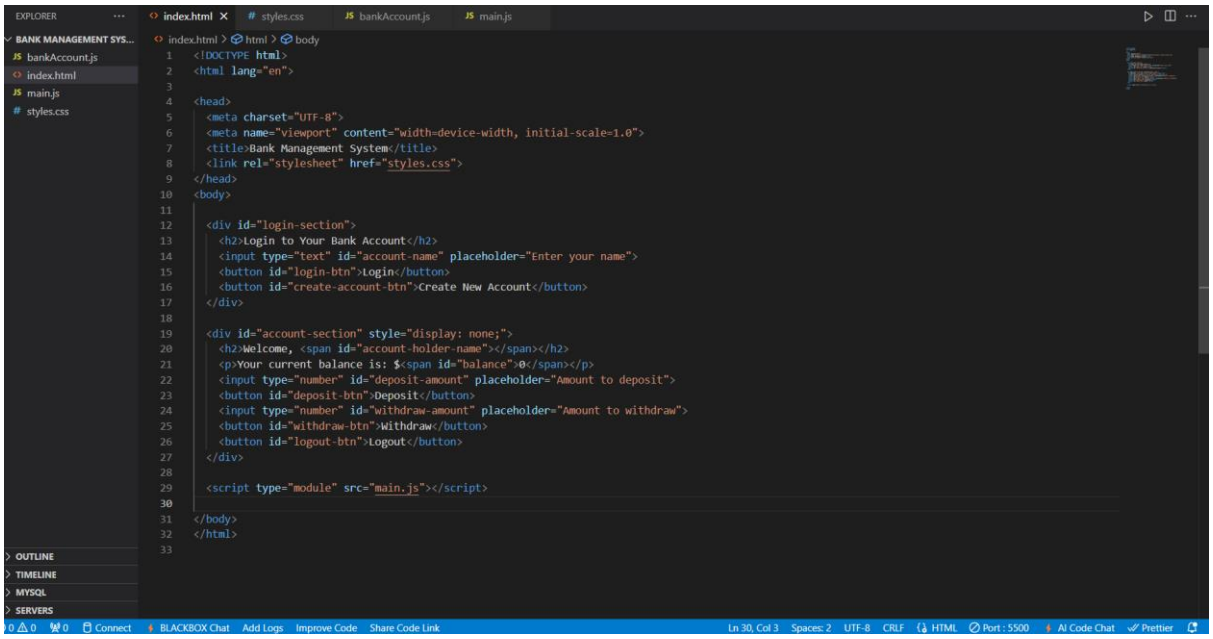
Code:

```
export default class BankAccount {
    constructor(accountHolder, initialBalance = 0) {
      this.accountHolder = accountHolder;
      this.balance = initialBalance;
    }


    deposit(amount) {
      if (amount > 0) {
        this.balance += amount;
        return `Deposited $${amount}. New balance: $${this.balance}`;
      }
      return 'Deposit amount must be positive.';
    }
```

```
  withdraw(amount) {
    if (amount > 0 && this.balance >= amount) {
      this.balance -= amount;
      return `Withdrew $${amount}. New balance: $${this.balance}`;
    } else if (amount <= 0) {
      return 'Withdrawal amount must be positive.';
    } else {
      return 'Insufficient balance for this withdrawal.';
    }
  }


  checkBalance() {
    return `Current balance: $${this.balance}`;
  }
}
```

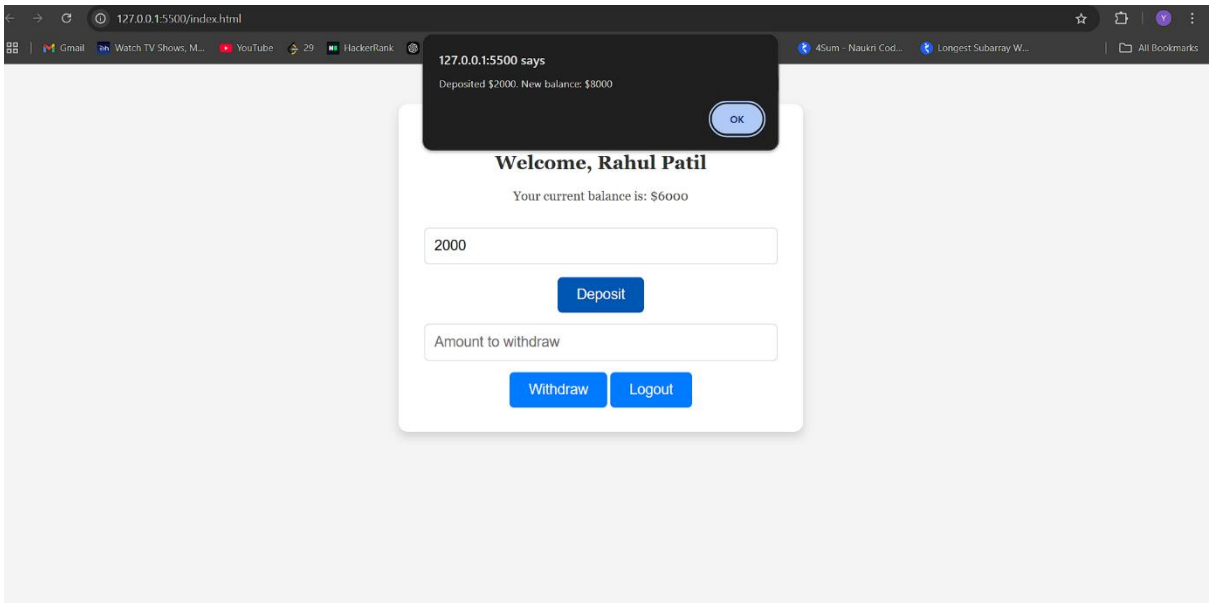
OUTPUTS:

ES6 module Structure:

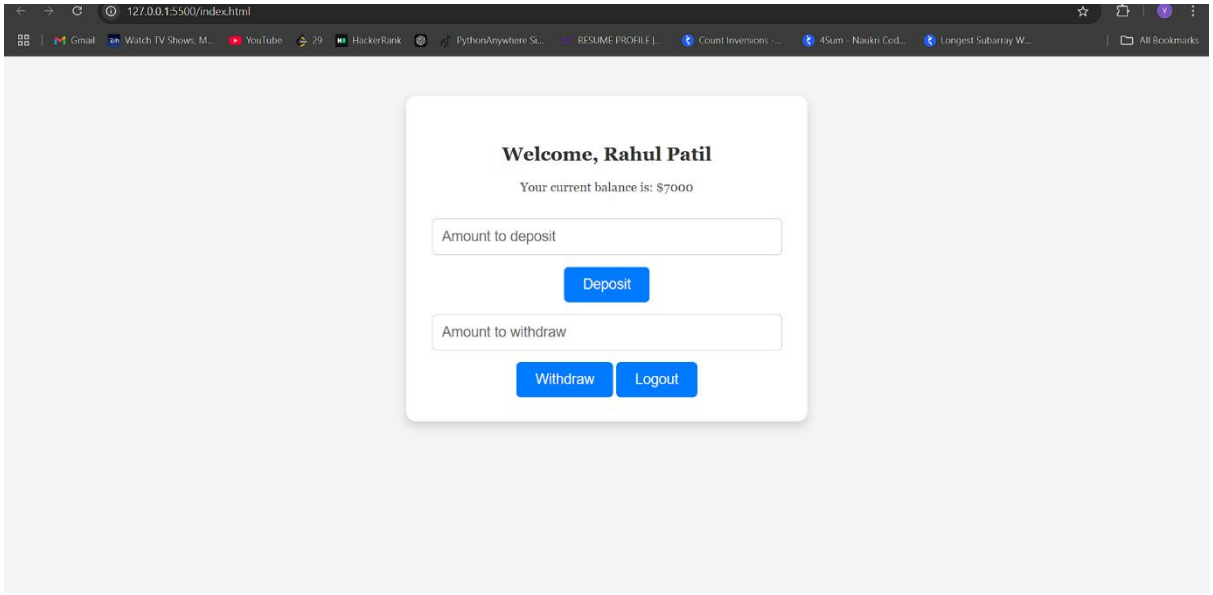


Functional Interactions:

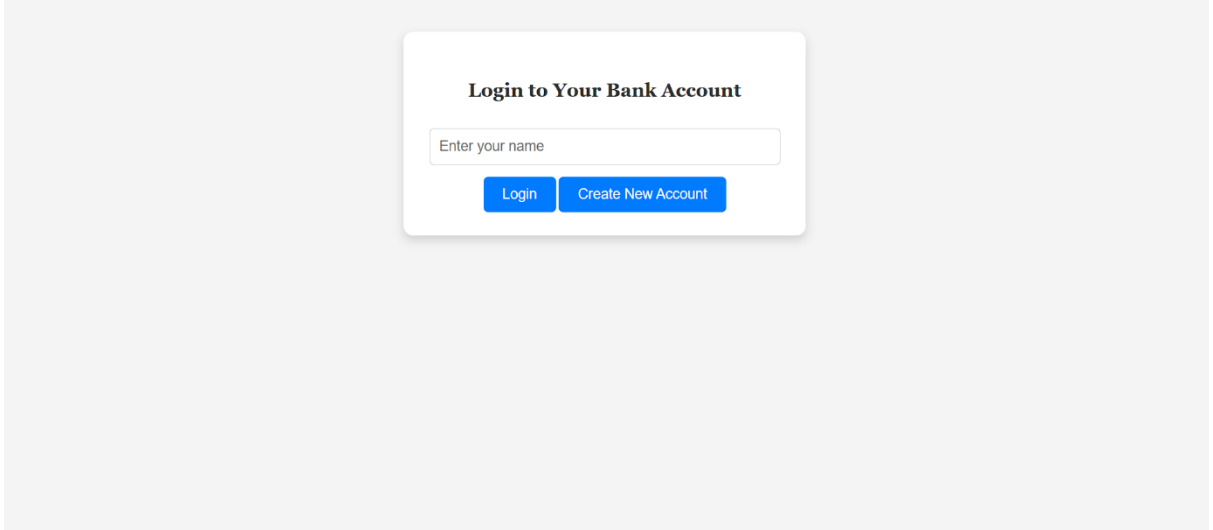
Account creation:



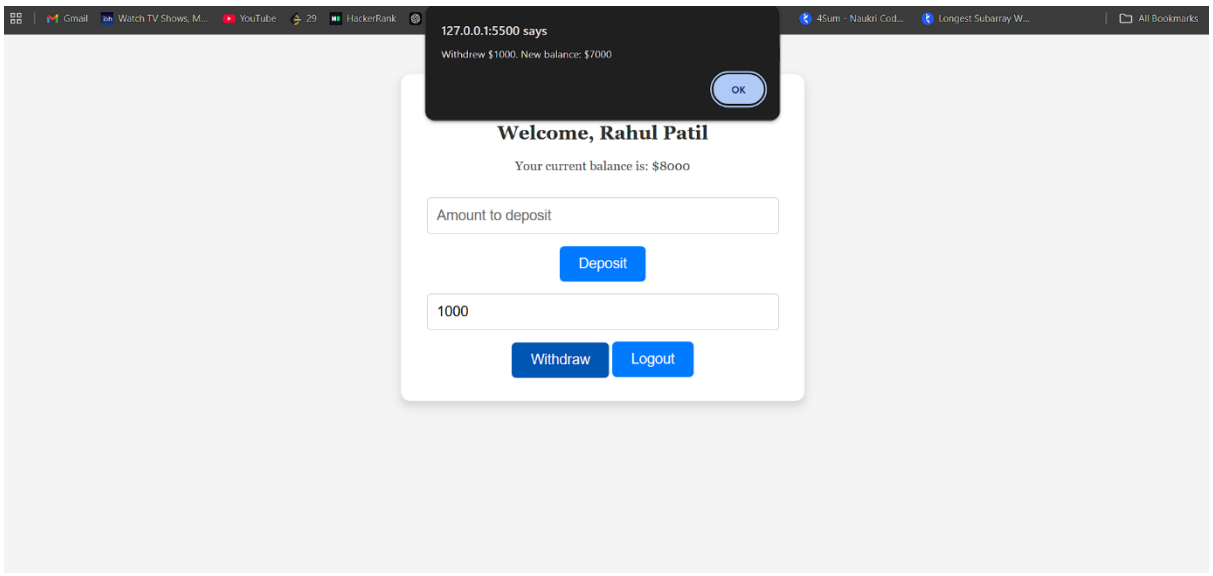
Current Balance:



Deposit:



Withdrawal:


Gmail
Watch TV Shows, M...
YouTube
29
HackerRank
4Sum - Naukri Cod...
Longest Subarray W...
All Bookmarks
127.0.0.1:5500 says
Withdrew $1000. New balance: $7000
OK
Welcome, Rahul Patil
Your current balance is: $8000
Amount to deposit
Deposit
1000
Withdraw
Logout