IBM Z DATATHON

Description of the project:

By doing this project we aim to analyze the problems of the farmers facing till today . We aim to do multi class classification and prediction to figure out which retailer is ready to buy the crop in which what price the farmers will ask . This will help the farmers to sell the crops for more profit along with that we have to work on the retailer side because he also not undergo loss by buying the crops from farmer.

Problem Statement:

Despite efforts to improve agricultural practices, many farmers are struggling to achieve adequate profit margins. Factors contributing to this issue include:

1. **Market Access**: Farmers often lack direct access to markets, leading to reliance on middlemen who take a significant share of the profits.
2. **Pricing Volatility**: Fluctuating prices for crops due to market demand, climate conditions, and global trade policies make it difficult for farmers to predict income.
3. **High Production Costs**: Rising costs of inputs such as seeds, fertilizers, and pesticides, combined with insufficient economies of scale for smallholder farmers, erode profit margins.
4. **Lack of Information**: Farmers often lack access to timely information about market trends, weather forecasts, and best practices, which can hinder decision-making.
5. **Poor Infrastructure**: Inadequate transportation, storage facilities, and access to technology can lead to post-harvest losses and increased costs.
6. **Climate Change**: Unpredictable weather patterns and extreme climate events adversely affect crop yields and can lead to financial losses.

Data Set:

We have gathered a dataset built by augmenting datasets of region wise crop production,crop price,retailers,farmer details available from github. we hope this gives us a better idea of the trends of costs considering different regions of the world .

Solution:

As everyone knows farmers are the backbone for the world so we have to listen the problems that they are facing. In this project we are going to collect the details of the farmer and the crop that he has grown along with the price details through the website and then the website also supports the retailers to login and see the details of the farmer crop and cost.And then it displays the details of the retailers to the farmers who are willing to buy the crops . By doing like this we can solve the farmers problem of reasonable pricing to their crops.
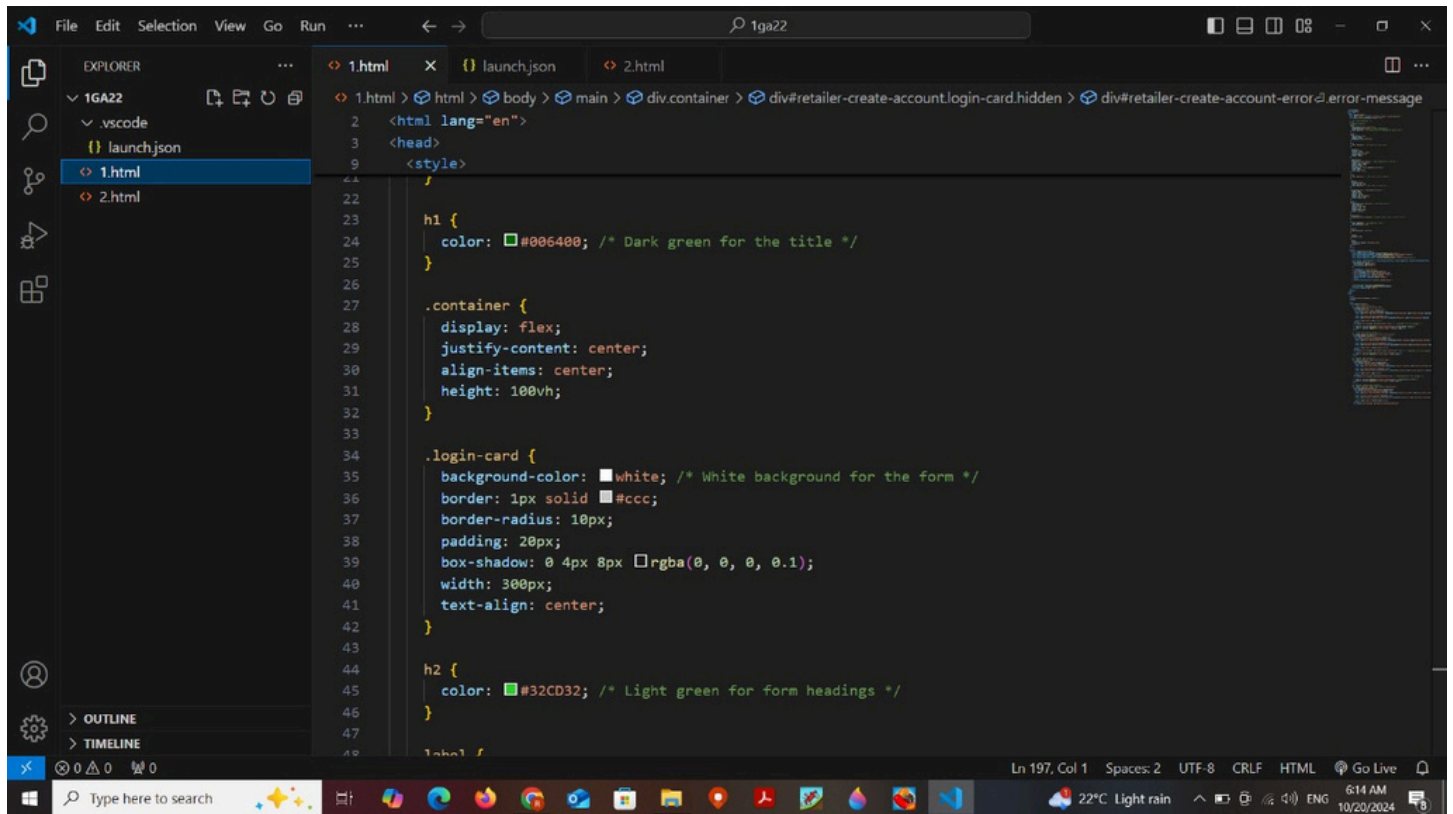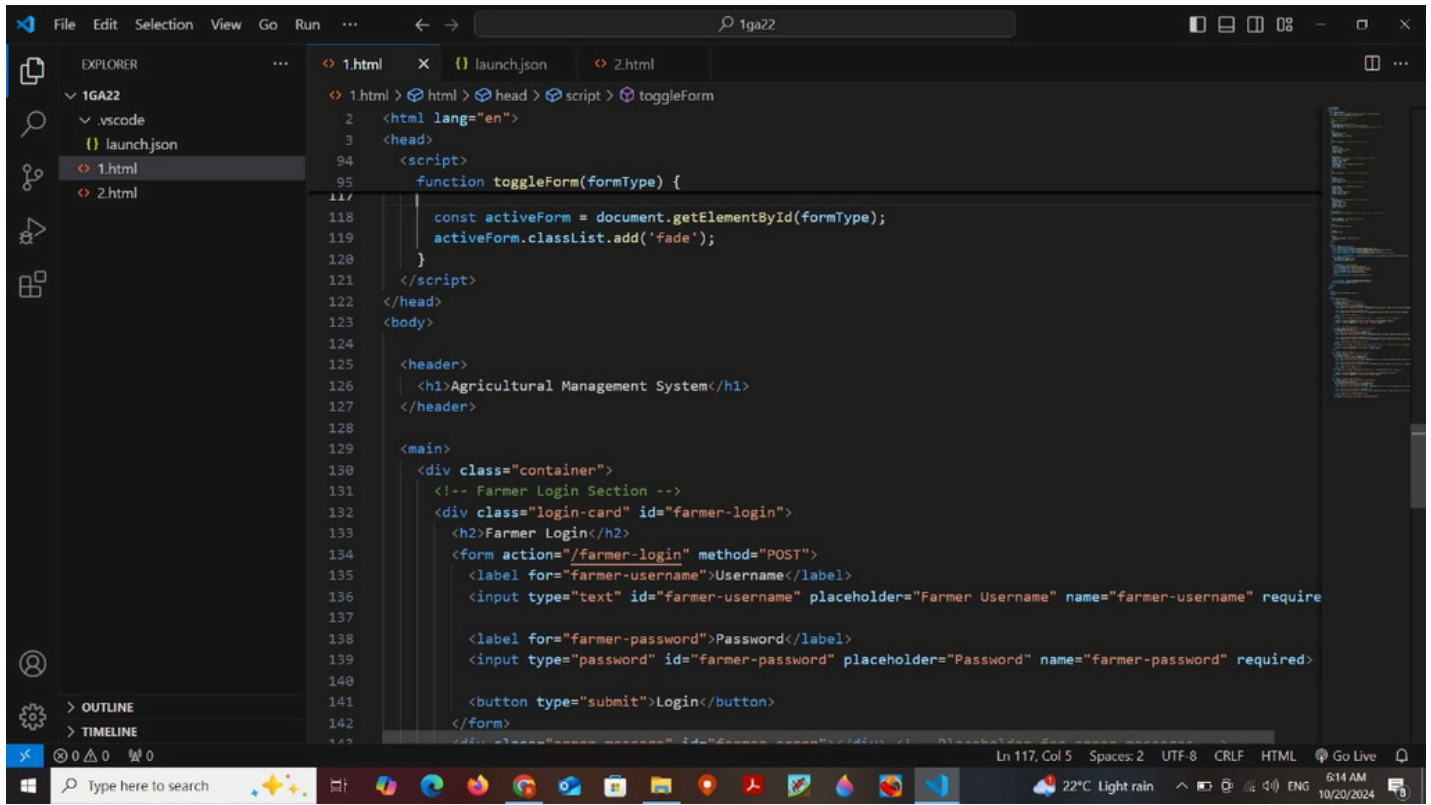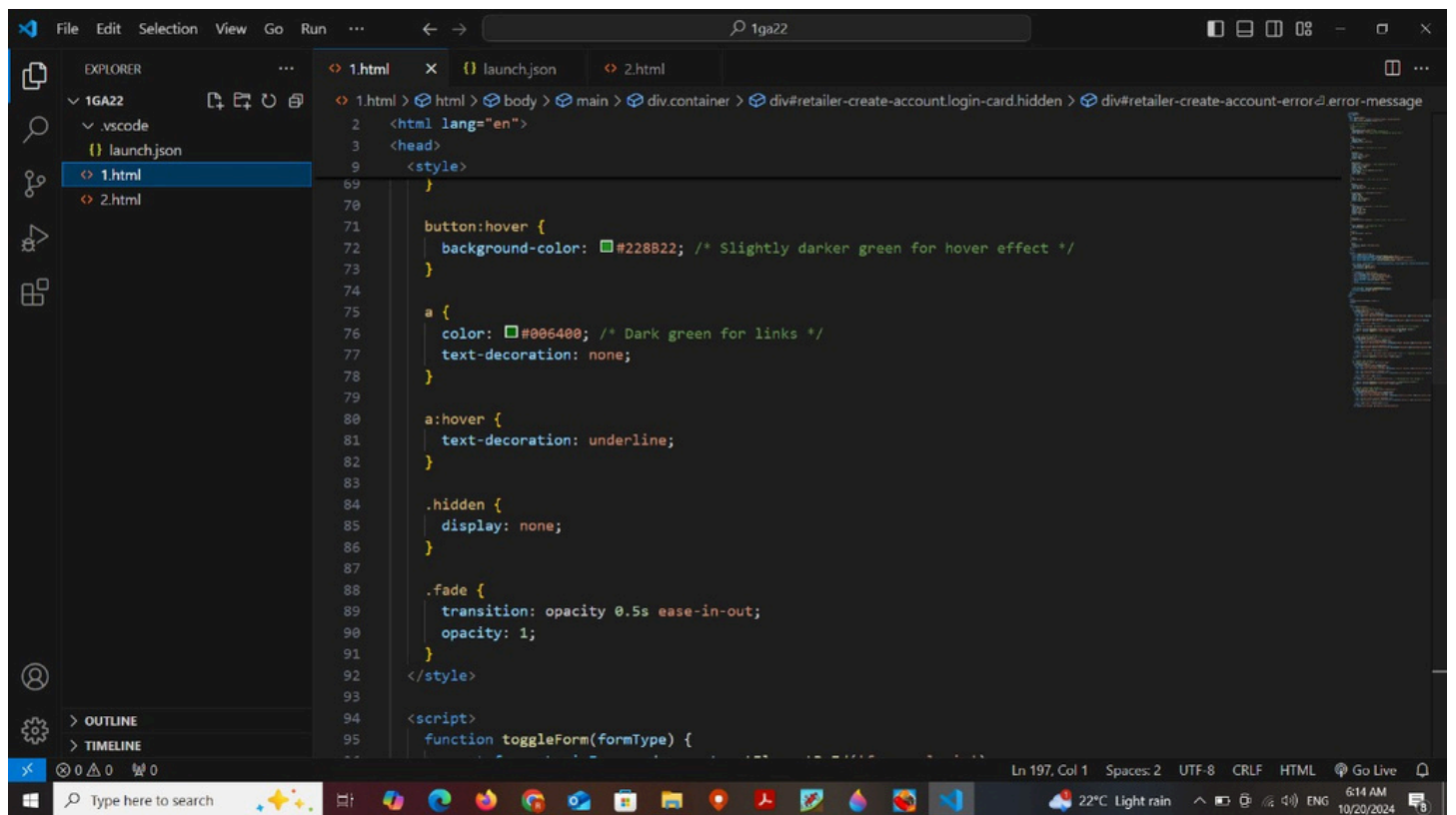
IBM Z Technology for this Project:

IBM-Z was an interactive working console, with increased development capabilities and resource packages, that simplified our development process and improvised our analytical potentialities, producing the desired outputs.Using IBM-Z, the crop information throughout the world can be accessed easily by the datasets . IBM-Z allowed us to integrate multiple data together to analyse the all the different datasets that are required for this project.

some of the important points

1.First the website will ask for the login details of the farmers and the retailers.

2.for farmer he has to provide the details of his crop,price and region details

3.for retailers they have to give the price details of cost they wants to buy.

4.Then if the both of them are satisfied with their conditions then the trade happens between them otherwise next someone will come and buy

Some snapshots of the website that we built

Screenshot 1

EXPLORER

1GA22
- .vscode
  - {} launch.json
  - 1.html
  - 2.html

Tabs: 1.html × | {} launch.json | 2.html

1.html > html > head > script > toggleForm

```html
  2   <html lang="en">
  3   <head>
 94    <script>
 95      function toggleForm(formType) {
117
118        const activeForm = document.getElementById(formType);
119        activeForm.classList.add('fade');
120      }
121    </script>
122  </head>
123  <body>
124
125    <header>
126      <h1>Agricultural Management System</h1>
127    </header>
128
129    <main>
130      <div class="container">
131        <!-- Farmer Login Section -->
132        <div class="login-card" id="farmer-login">
133          <h2>Farmer Login</h2>
134          <form action="/farmer-login" method="POST">
135            <label for="farmer-username">Username</label>
136            <input type="text" id="farmer-username" placeholder="Farmer Username" name="farmer-username" require
137
138            <label for="farmer-password">Password</label>
139            <input type="password" id="farmer-password" placeholder="Password" name="farmer-password" required>
140
141            <button type="submit">Login</button>
142          </form>
```

Ln 117, Col 5   Spaces: 2   UTF-8   CRLF   HTML   Go Live

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Screenshot 2

EXPLORER

1GA22
- .vscode
  - {} launch.json
  - 1.html
  - 2.html

Tabs: 1.html × | {} launch.json | 2.html

1.html > html > body > main > div.container > div#retailer-create-account.login-card.hidden > div#retailer-create-account-error.error-message

```html
  2   <html lang="en">
  3   <head>
  9     <style>
 22
 23       h1 {
 24         color: #006400; /* Dark green for the title */
 25       }
 26
 27       .container {
 28         display: flex;
 29         justify-content: center;
 30         align-items: center;
 31         height: 100vh;
 32       }
 33
 34       .login-card {
 35         background-color: white; /* White background for the form */
 36         border: 1px solid #ccc;
 37         border-radius: 10px;
 38         padding: 20px;
 39         box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1);
 40         width: 300px;
 41         text-align: center;
 42       }
 43
 44       h2 {
 45         color: #32CD32; /* Light green for form headings */
 46       }
 47
 48       label {
```

Ln 197, Col 1   Spaces: 2   UTF-8   CRLF   HTML   Go Live

22°C Light rain   ENG   6:14 AM 10/20/2024

1.html   {} launch.json   2.html

1.html > html > body > main > div.container > div#retailer-create-account.login-card.hidden > div#retailer-create-account-error.error-message

```
 2      <html lang="en">
 3      <head>
 9        <style>
44          h2 {
46          }
47
48          label {
49            display: block;
50            margin-bottom: 5px;
51            color: #32CD32; /* Light green for label text */
52          }
53
54          input[type="text"], input[type="password"] {
55            width: 100%;
56            padding: 10px;
57            margin: 10px 0;
58            border: 1px solid #ccc;
59            border-radius: 5px;
60          }
61
62          button {
63            background-color: #32CD32; /* Light green button */
64            color: white;
65            padding: 10px 20px;
66            border: none;
67            border-radius: 5px;
68            cursor: pointer;
69          }
70
71          button:hover {
72            background-color: #228B22; /* Slightly darker green for hover effect */
```

Ln 197, Col 1   Spaces: 2   UTF-8   CRLF   HTML   Go Live

1.html   {} launch.json   2.html

1.html > html > body > main > div.container > div#retailer-create-account.login-card.hidden > div#retailer-create-account-error.error-message

```
 2      <html lang="en">
 3      <head>
 9        <style>
69          }
70
71          button:hover {
72            background-color: #228B22; /* Slightly darker green for hover effect */
73          }
74
75          a {
76            color: #006400; /* Dark green for links */
77            text-decoration: none;
78          }
79
80          a:hover {
81            text-decoration: underline;
82          }
83
84          .hidden {
85            display: none;
86          }
87
88          .fade {
89            transition: opacity 0.5s ease-in-out;
90            opacity: 1;
91          }
92        </style>
93
94        <script>
95          function toggleForm(formType) {
```

Ln 197, Col 1   Spaces: 2   UTF-8   CRLF   HTML   Go Live

1.html > ⬡ html > ⬡ body > ⬡ main > ⬡ div.container > ⬡ div#retailer-create-account.login-card.hidden > ⬡ div#retailer-create-account-error◁.error-message

```html
  2      <html lang="en">
  3      <head>
  9        <style>
 91        }
 92        </style>
 93
 94        <script>
 95          function toggleForm(formType) {
 96            const farmerLoginForm = document.getElementById('farmer-login');
 97            const farmerCreateAccountForm = document.getElementById('farmer-create-account');
 98            const retailerLoginForm = document.getElementById('retailer-login');
 99            const retailerCreateAccountForm = document.getElementById('retailer-create-account');
100
101            const forms = [farmerLoginForm, farmerCreateAccountForm, retailerLoginForm, retailerCreateAccountForm];
102            forms.forEach(form => {
103              form.classList.remove('fade');
104              form.classList.add('hidden');
105            });
106
107            if (formType === 'farmer-login') {
108              farmerLoginForm.classList.remove('hidden');
109            } else if (formType === 'farmer-create-account') {
110              farmerCreateAccountForm.classList.remove('hidden');
111            } else if (formType === 'retailer-login') {
112              retailerLoginForm.classList.remove('hidden');
113            } else {
114              retailerCreateAccountForm.classList.remove('hidden');
115            }
116
117            // Add the fade class to the displayed form
```

1.html > ⬡ html > ⬡ body > ⬡ main > ⬡ div.container

```html
  2      <html lang="en">
123      <body>
129        <main>
130          <div class="container">
167            <div class="login-card hidden" id="retailer-login">
169              <form action="/retailer-login" method="POST">
170                <label for="retailer-username">Username</label>
171                <input type="text" id="retailer-username" placeholder="Retailer Username" name="retailer-username" r
172
173                <label for="retailer-password">Password</label>
174                <input type="password" id="retailer-password" placeholder="Password" name="retailer-password" requir
175
176                <button type="submit">Login</button>
177              </form>
178              <div class="error-message" id="retailer-error"></div> <!-- Placeholder for error messages -->
179
180              <a href="#" onclick="toggleForm('retailer-create-account')">Create Retailer Account</a>
181              <a href="#" onclick="toggleForm('farmer-login')">Farmer Login</a>
182            </div>
183
184            <!-- Retailer Create Account Section -->
185            <div class="login-card hidden" id="retailer-create-account">
186              <h2>Create Retailer Account</h2>
187              <form action="/retailer-create-account" method="POST">
188                <label for="new-retailer-username">Username</label>
189                <input type="text" id="new-retailer-username" placeholder="Retailer Username" name="new-retailer-use
190
191                <label for="new-retailer-password">Password</label>
192                <input type="password" id="new-retailer-password" placeholder="Password" name="new-retailer-password
193
```
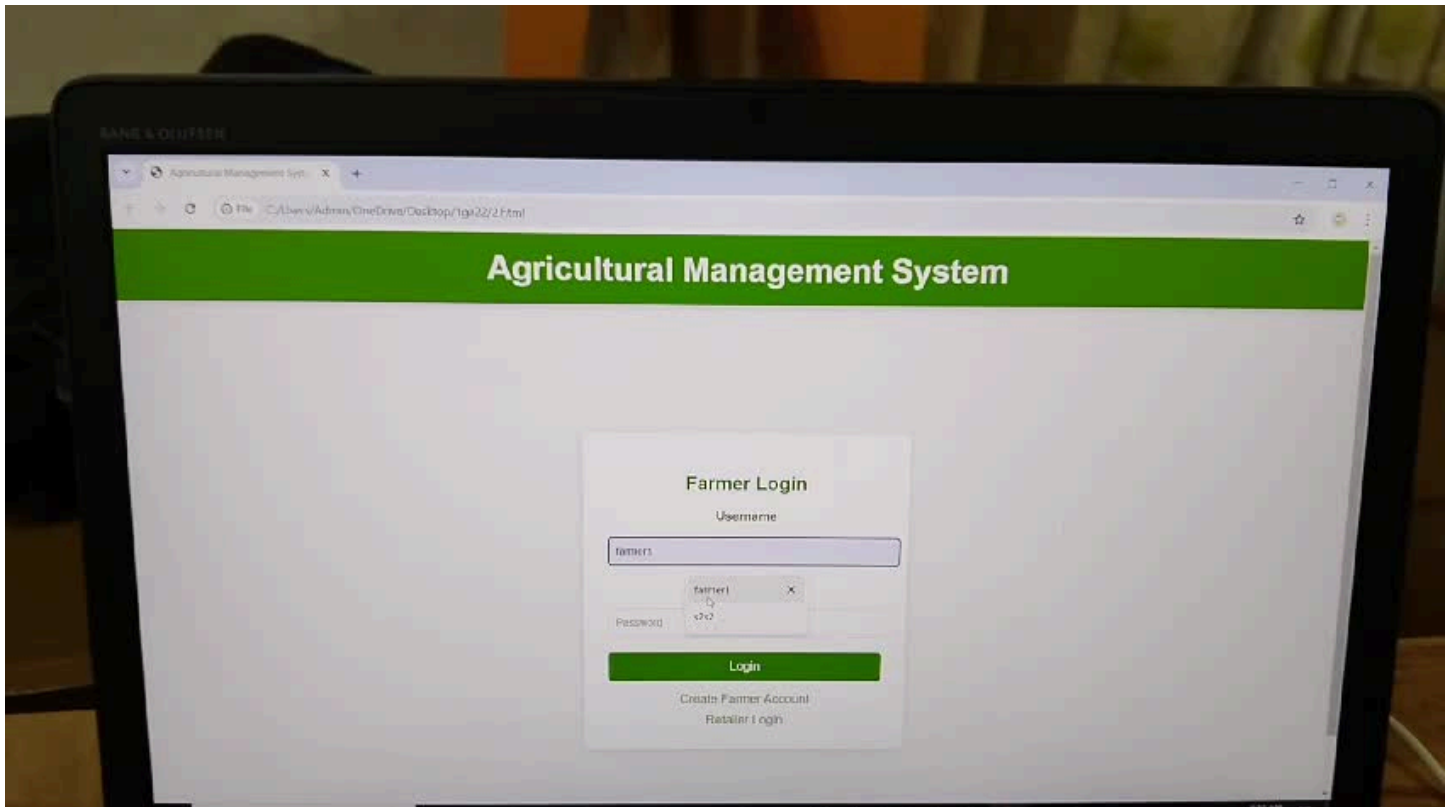
Video Explaination by the team member: