

CMPE 287 – Software Quality Assurance and Testing

AI test Tool

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Below are the steps that I had performed in the AI testing tool.

1. Figure 1 shows the login page with my username.

The screenshot shows a web browser window with the address bar displaying '3.14.249.198:8080/login'. The page features a header with a logo and the text 'AI Testing Tool'. Below the header, there is a 'Log in' section. On the left, there are two input fields: 'Username' with the value '016707314harish' and 'Password' with masked characters. A blue 'Login' button is positioned below the password field. To the right of the login form, separated by an 'OR' label, is a grey 'Sign up' button with a pencil icon.

Fig. 1. AI testing tool login page

2. Figure 2 shows the dashboard page after logging in to the tool. Click on Add Project to create a project.

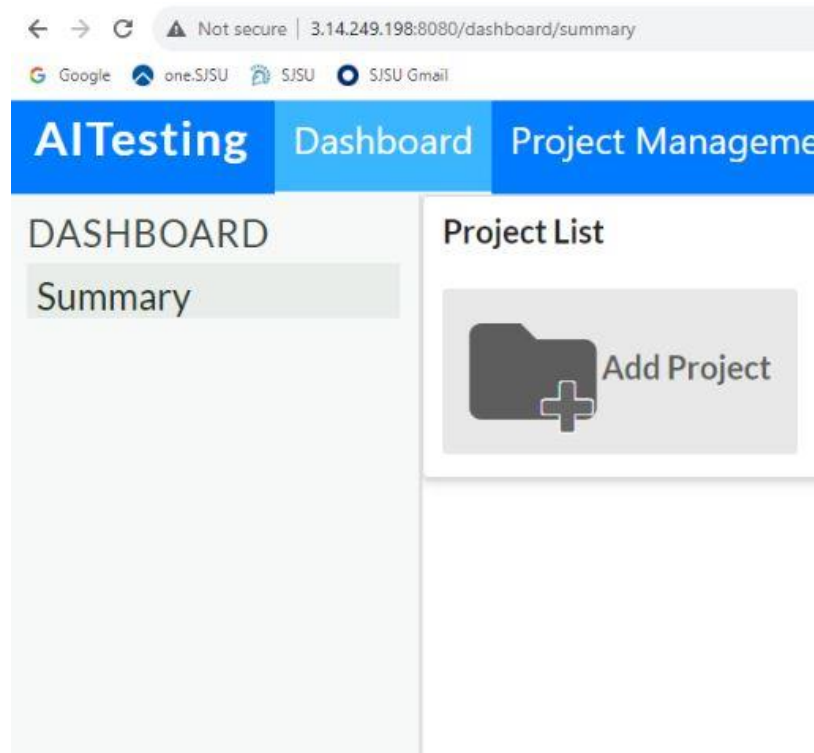


Fig. 2. Dashboard Page

3. Figure 3 shows the Add Project page where we can create the project with a name and function. Here, create Input, Context, and Output models.

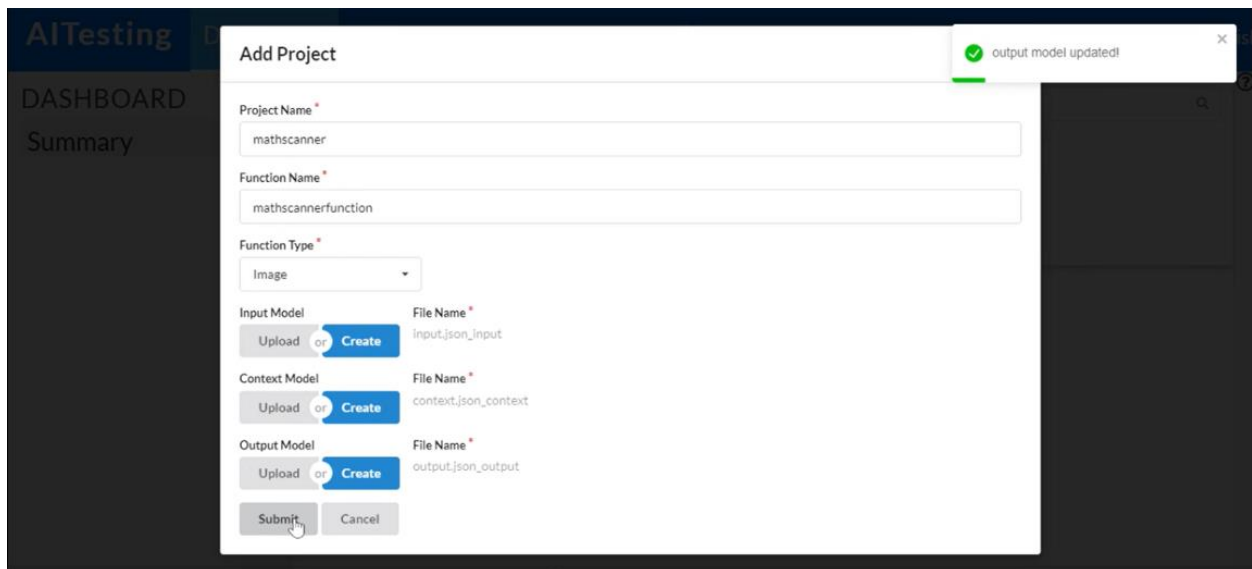


Fig. 3. Add Project Wizard

4. Figure 4 shows the Project List with my created mathscanner project.

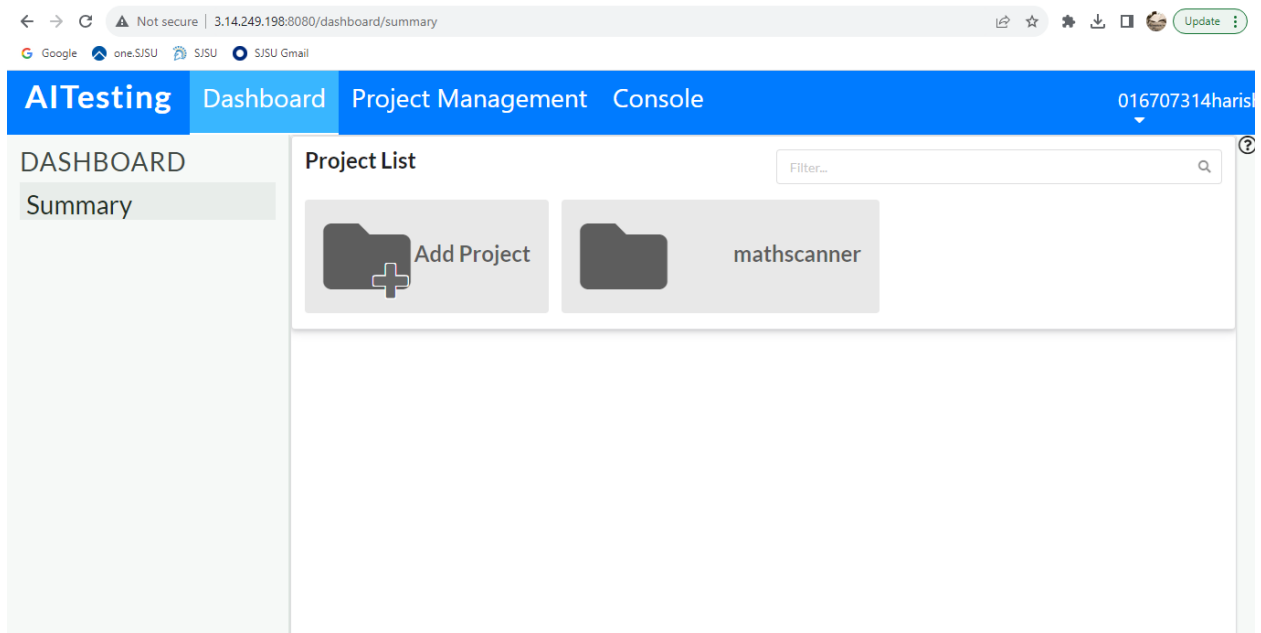


Fig. 4. Project List

5. Figure 5 shows the Project Management tab containing Function List with my created mathscannerfunction.

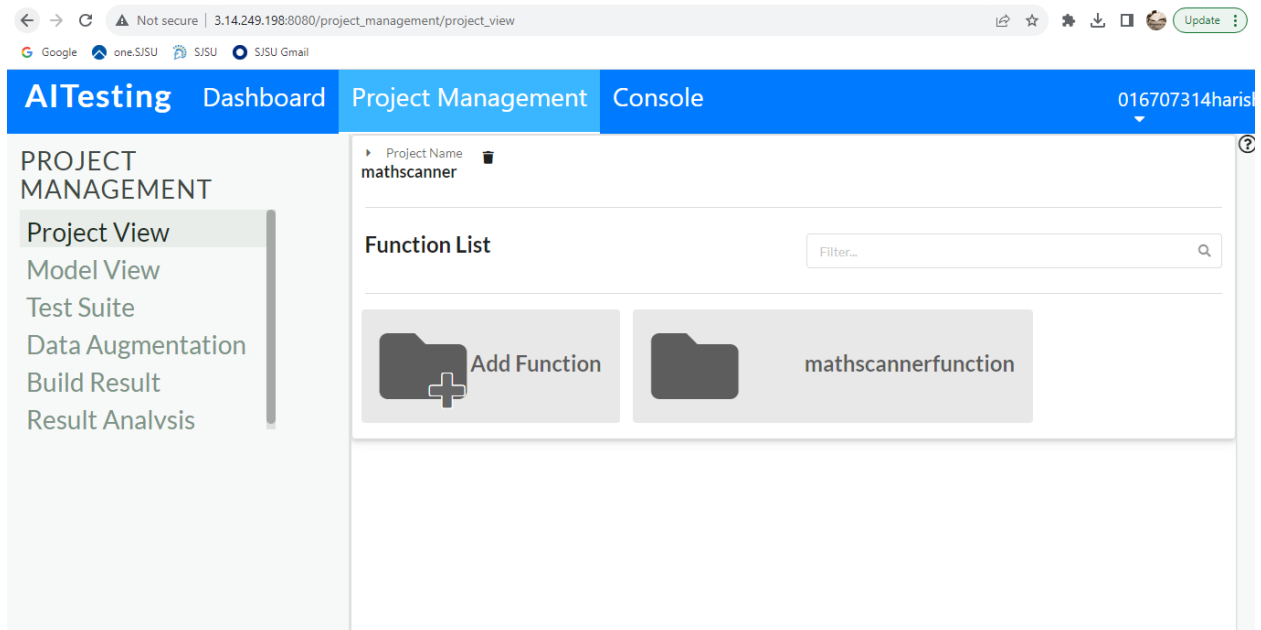


Fig. 5. Function List

6. Click on the created function to open the Model View. Figures 6 and 7 show the tree model of the input.

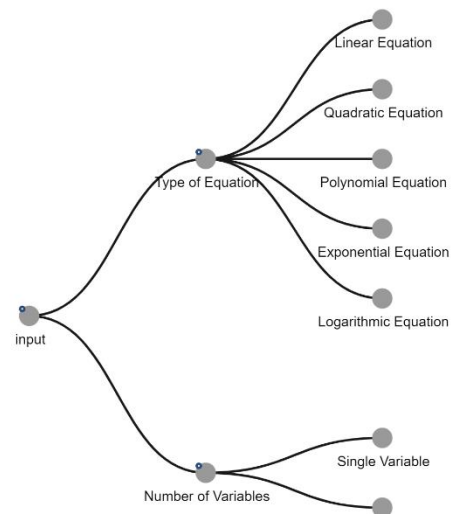


Fig. 6. Input Tree Model

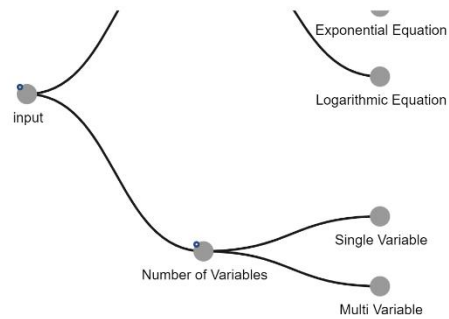


Fig. 7. Input Tree Model

7. Figures 8 and 9 show the input table with number of variables and type of equation as columns.

AITesting Dashboard Project Management Console 016707314haris

PROJECT MANAGEMENT

- Project View
- Model View
- Test Suite
- Data Augmentation
- Build Result
- Result Analysis

Project Name: mathscanner mathscannerfunction

Buttons: Edit Function, Delete Function

Input: input.json_input

Search: Enter a keyword and press enter...

id	Number of Variables	Type of Equation	Edit Output
1	Single Variable	Linear Equation	Edit Output
2	Multi Variable	Logarithmic Equation	Edit Output
3	Multi Variable	Linear Equation	Edit Output
4	Single Variable	Quadratic Equation	Edit Output
5	Multi Variable	Quadratic Equation	Edit Output

Navigation: « < 1 2 > » Select rows per page Download Table As

3.14.249.198:8080/project_management

Fig. 8. Input Table

AITesting Dashboard Project Management Console 016707314haris

PROJECT MANAGEMENT

- Project View
- Model View
- Test Suite
- Data Augmentation
- Build Result
- Result Analysis

Project Name: mathscanner mathscannerfunction

Buttons: Edit Function, Delete Function

Input: input.json_input

Search: Enter a keyword and press enter...

id	Number of Variables	Type of Equation	Edit Output
6	Single Variable	Polynomial Equation	Edit Output
7	Multi Variable	Polynomial Equation	Edit Output
8	Single Variable	Exponential Equation	Edit Output
9	Multi Variable	Exponential Equation	Edit Output
10	Single Variable	Logarithmic Equation	Edit Output

Navigation: « < 1 2 > » Select rows per page Download Table As

Fig. 9. Input Table

8. Figures 10 and 11 show the tree model of the context.

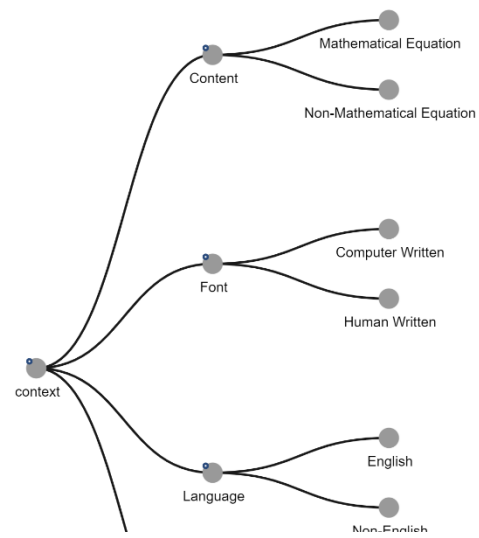


Fig. 10. Context Tree Model

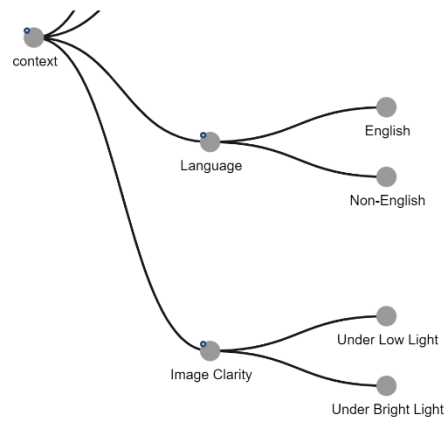


Fig. 11. Context Tree Model

9. Figures 12, 13, 14, and 15 show the context table with content, font, image clarity, and language as columns.

AI Testing Dashboard Project Management Console 016707314haris

PROJECT MANAGEMENT

- Project View
- Model View
- Test Suite
- Data Augmentation
- Build Result
- Result Analysis

Project Name: mathscanner Function Name: mathscannerfunction

Buttons: Edit Function, Delete Function

Input: context.json_context

Search: Enter a keyword and press enter...

id	Content	Font	Image Clarity	Language
1	Mathematical Equation	Computer Written	Under Low Light	English
2	Mathematical Equation	Computer Written	Under Bright Light	English
3	Mathematical Equation	Computer Written	Under Low Light	Non-English
4	Mathematical Equation	Computer Written	Under Bright Light	Non-English
5	Mathematical Equation	Human Written	Under Low Light	English

Navigation: « < 1 2 3 4 > » Select rows per page Download Table As

Fig. 12. Context Table

AI Testing Dashboard Project Management Console 016707314haris

PROJECT MANAGEMENT

- Project View
- Model View
- Test Suite
- Data Augmentation
- Build Result
- Result Analysis

Project Name: mathscanner Function Name: mathscannerfunction

Buttons: Edit Function, Delete Function

Input: context.json_context

Search: Enter a keyword and press enter...

id	Content	Font	Image Clarity	Language
6	Mathematical Equation	Human Written	Under Bright Light	English
7	Mathematical Equation	Human Written	Under Low Light	Non-English
8	Mathematical Equation	Human Written	Under Bright Light	Non-English
9	Non-Mathematical Equation	Computer Written	Under Low Light	English
10	Non-Mathematical Equation	Computer Written	Under Bright Light	English

Navigation: « < 1 2 3 4 > » Select rows per page Download Table As

Fig. 13. Context Table

10. Figure 16 shows the tree model of the output.

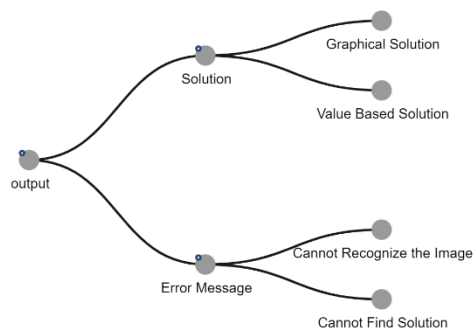


Fig. 16. Output Tree Model

11. Figures 17 and 18 show the output table with error message and solution.

AITesting

Dashboard

Project Management

Console

016707314haris

PROJECT MANAGEMENT

Project View

Model View

Test Suite

Data Augmentation

Build Result

Result Analysis

Project Name

mathscanner

Function Name

mathscannerfunction

Edit Function

Delete Function

Input

Context

Output

output.json_output

Enter a keyword and press enter...

id	Error Message	Solution
1	Cannot Recognize the Image	Graphical Solution
2	Cannot Find Solution	Graphical Solution
3	Cannot Recognize the Image	Value Based Solution
4	Cannot Find Solution	Value Based Solution
5	Cannot Find Solution	Graphical Solution

«

<

1

2

>

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Select rows per page

Download Table As

Fig. 17. Output Table

AI Testing	Dashboard	Project Management	Console	016707314haris
PROJECT MANAGEMENT				
Project View				
Model View				
Test Suite				
Data Augmentation				
Build Result				
Result Analysis				

id	Error Message	Solution	id	Number of Variables	Type of Equation
1	Cannot Recognize the Image	Graphical Solution	1	Single Variable	Linear Equation
2	Cannot Find Solution	Graphical Solution	2	Multi Variable	Logarithmic Equation
3	Cannot Recognize the Image	Value Based Solution	3	Multi Variable	Linear Equation
4	Cannot Find Solution	Value Based Solution	4	Single Variable	Quadratic Equation
5	Cannot Find Solution	Value Based Solution	5	Multi Variable	Polynomial Equation
6	Cannot Recognize the Image	Graphical Solution	6	Single Variable	Polynomial Equation
7	Cannot Find Solution	Value Based Solution	7	Multi Variable	Exponential Equation
8	Cannot Recognize the Image	Graphical Solution	8	Single Variable	Exponential Equation
9	Cannot Find Solution	Graphical Solution	9	Multi Variable	Logarithmic Equation
10	Cannot Find Solution	Value Based Solution	10	Single Variable	Linear Equation

Fig. 20. Decision Table

AI Testing	Dashboard	Project Management	Console	016707314haris
PROJECT MANAGEMENT				
Project View				
Model View				
Test Suite				
Data Augmentation				
Build Result				
Result Analysis				

id	Content	Font	Image Clarity	Language
1	Mathematical Equation	Computer Written	Under Low Light	English
2	Mathematical Equation	Computer Written	Under Bright Light	English
3	Mathematical Equation	Computer Written	Under Low Light	Non-English
4	Mathematical Equation	Computer Written	Under Bright Light	Non-English
5	Mathematical Equation	Human Written	Under Low Light	English
6	Mathematical Equation	Human Written	Under Bright Light	English
7	Mathematical Equation	Human Written	Under Low Light	Non-English
8	Mathematical Equation	Human Written	Under Bright Light	Non-English
9	Non-Mathematical Equation	Computer Written	Under Low Light	English
10	Non-Mathematical Equation	Computer Written	Under Bright Light	English

Fig. 21. Decision Table

13. Figures 22 and 23 show the total test cases that got generated.

AITesting

Dashboard

Project Management

Console

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PROJECT MANAGEMENT

Project View

Model View

Test Suite

Data Augmentation

Build Result

Result Analysis

Project Name

mathscanner

Function Name

mathscannerfunction

Test Cases

Enter a keyword and press enter...

		Input Feature		Context Feature				Expected Output			
<input type="checkbox"/>	id	Number of Variables	Type of Equation	Content	Font	Image Clarity	Language	Error Message	Solution	Image Input	Upload
<input type="checkbox"/>	1	Single Variable	Linear Equation	Mathematical Equation	Computer Written	Under Low Light	English	Cannot Recognize the Image	Graphical Solution		Upload
<input type="checkbox"/>	2	Multi Variable	Linear Equation	Mathematical Equation	Computer Written	Under Low Light	English	Cannot Recognize the Image	Value Based Solution		Upload
<input type="checkbox"/>	3	Single Variable	Quadratic Equation	Mathematical Equation	Computer Written	Under Low Light	English	Cannot Find Solution	Value Based Solution		Upload
<input type="checkbox"/>	4	Multi Variable	Quadratic Equation	Mathematical Equation	Computer Written	Under Low Light	English	Cannot Find Solution	Graphical Solution		Upload
<input type="checkbox"/>	5	Single Variable	Polynomial Equation	Mathematical Equation	Computer Written	Under Low Light	English	Cannot Recognize the Image	Value Based Solution		Upload
<input type="checkbox"/>	6	Multi Variable	Polynomial Equation	Mathematical Equation	Computer Written	Under Low Light	English	Cannot Find Solution	Graphical Solution		Upload
<input type="checkbox"/>	7	Single Variable	Exponential Equation	Mathematical Equation	Computer Written	Under Low Light	English	Cannot Recognize the Image	Graphical Solution		Upload
<input type="checkbox"/>	8	Multi Variable	Exponential Equation	Mathematical Equation	Computer Written	Under Low Light	English	Cannot Find Solution	Value Based Solution		Upload

Fig. 22. Test Cases

<div> <div>AITesting</div> <div>Dashboard</div> <div>Project Management</div> <div>Console</div> <div>016707314haris</div> </div>											
<div>PROJECT MANAGEMENT</div> <div>Project View</div> <div>Model View</div> <div>Test Suite</div> <div>Data Augmentation</div> <div>Build Result</div> <div>Result Analysis</div>	<input type="checkbox"/>	151	Single Variable	Linear Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Recognize the Image	Graphical Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	152	Multi Variable	Linear Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Recognize the Image	Value Based Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	153	Single Variable	Quadratic Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Find Solution	Value Based Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	154	Multi Variable	Quadratic Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Find Solution	Graphical Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	155	Single Variable	Polynomial Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Recognize the Image	Value Based Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	156	Multi Variable	Polynomial Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Find Solution	Graphical Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	157	Single Variable	Exponential Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Recognize the Image	Graphical Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	158	Multi Variable	Exponential Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Find Solution	Value Based Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	159	Single Variable	Logarithmic Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Find Solution	Value Based Solution	<input type="button" value="Upload"/>
	<input type="checkbox"/>	160	Multi Variable	Logarithmic Equation	Non-Mathematical Equation	Human Written	Under Bright Light	Non-English	Cannot Find Solution	Graphical Solution	<input type="button" value="Upload"/>
	<div> <div>«</div> <div>(</div> <div>1</div> <div>...</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>)</div> <div>»</div> </div> <div>Select rows per page</div> <div><input type="button" value="Import Data"/></div> <div><input type="button" value="Export Testcases"/></div> <div><input type="button" value="Data Generation"/></div>										
	Data Augmentation										

Fig. 23. Test Cases