



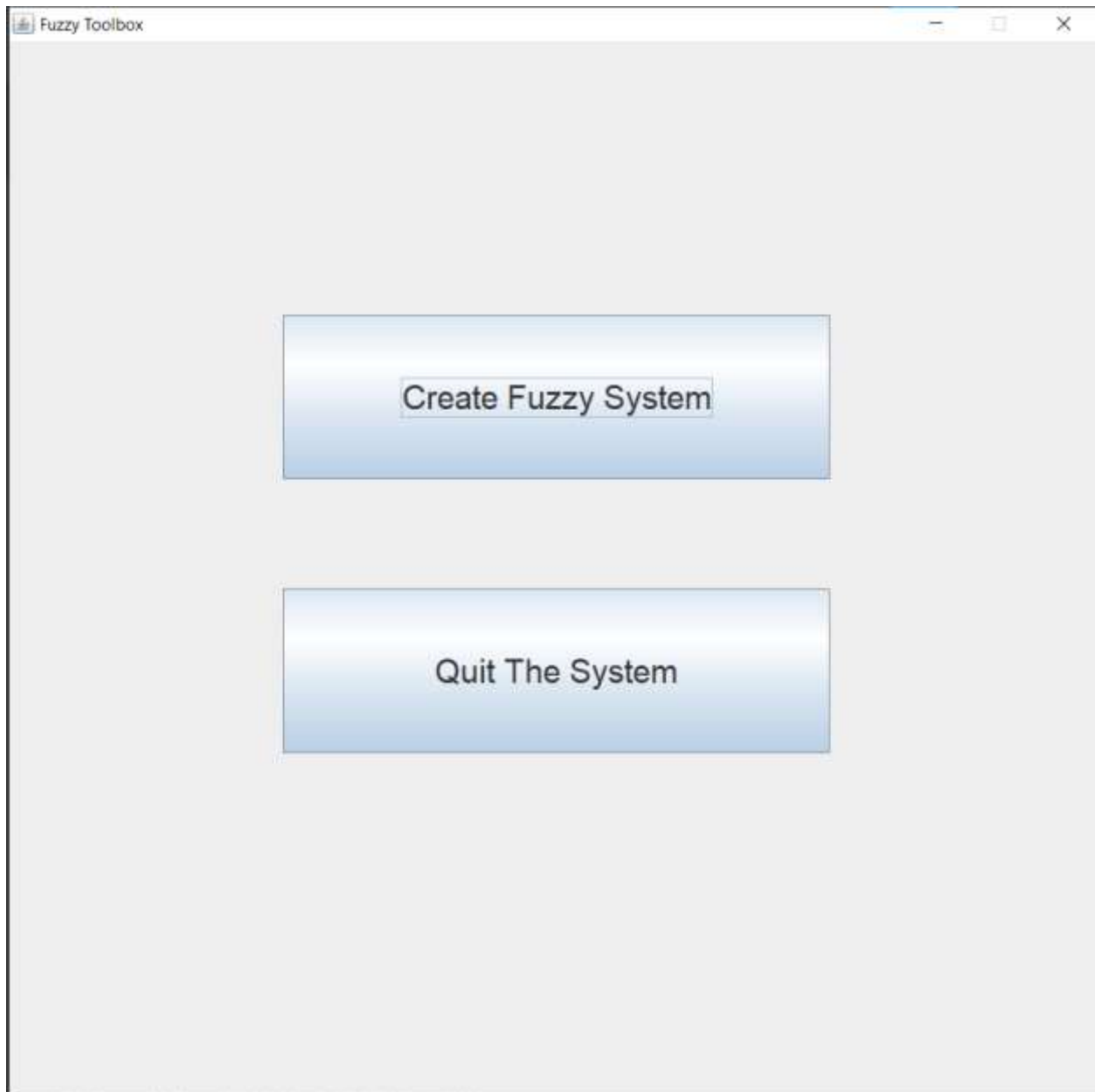
Cairo University
Faculty of Computers and Artificial Intelligence

Machine Learning
Assignment 2

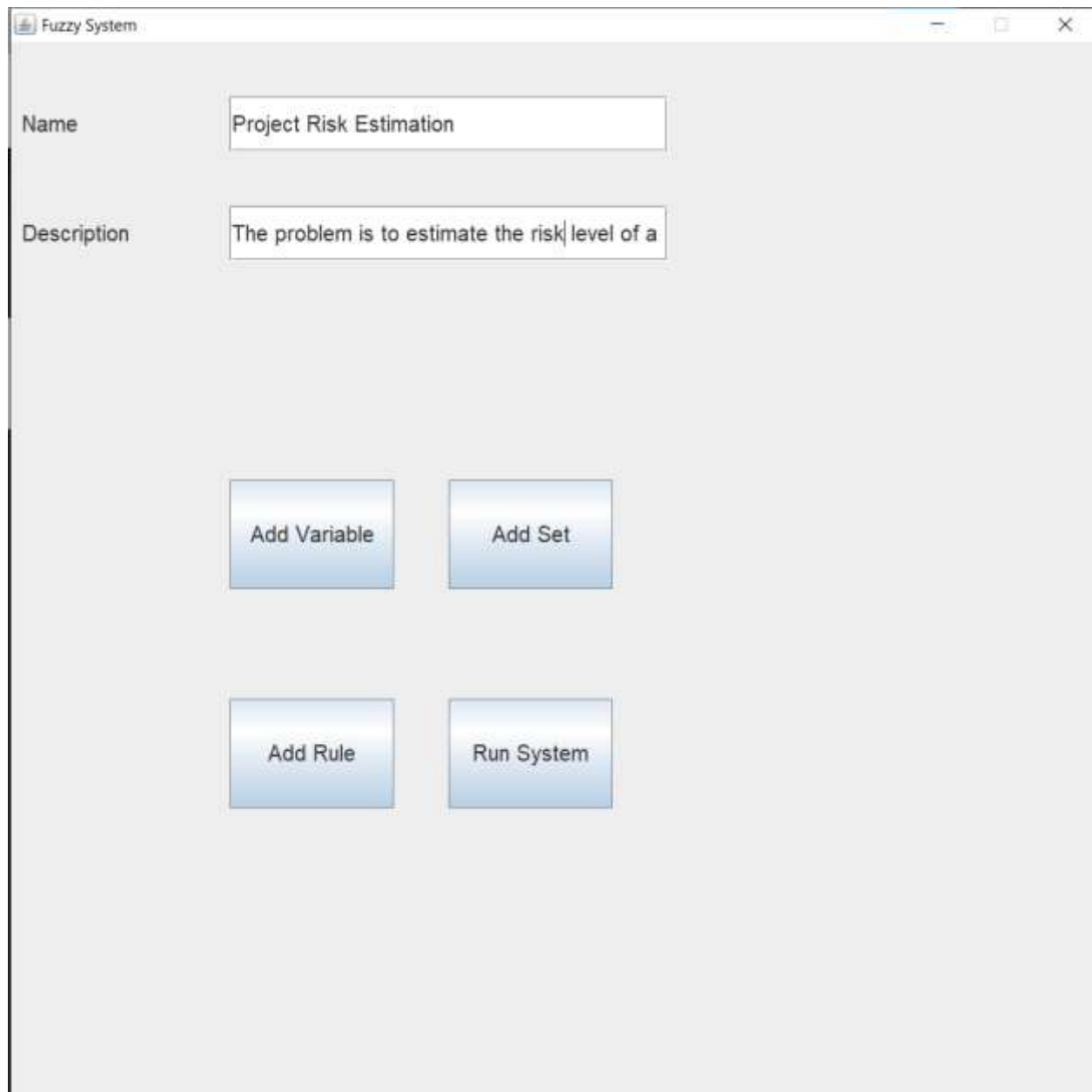
Team Members

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1: Start the Fuzzy toolbox



2: add variables and their sets



The screenshot shows a software window titled "Fuzzy System". It contains two text input fields at the top. The first field, labeled "Name", contains the text "Project Risk Estimation". The second field, labeled "Description", contains the text "The problem is to estimate the risk level of a". Below these fields are four blue buttons arranged in a 2x2 grid. The top row contains "Add Variable" and "Add Set". The bottom row contains "Add Rule" and "Run System".

Name	Project Risk Estimation
Description	The problem is to estimate the risk level of a

Add Variable

Add Set

Add Rule

Run System

Adding Variable

Variable Name

proj_funding

Variable Type

IN

Lower Bound

0

Upper Bound

100

Crisp Value

50

Hint: If Variable Type is IN

ADD

Adding Set

Variable Name

proj_funding

Set Name

very_low

Set Type

TRAP

Dimension 1

0

Dimension 2

0

Dimension 3

10

Dimension 4

30

Hint: If Set Type is TRAP

ADD

Adding Set

Variable Name

proj_funding

Set Name

low

Set Type

TRAP

Dimension 1

10

Dimension 2

30

Dimension 3

40

Dimension 4

40

Hint: If Set Type is TRAP

ADD

Adding Set

Variable Name

proj_funding

Set Name

medium

Set Type

TRAP

Dimension 1

40

Dimension 2

60

Dimension 3

70

Dimension 4

90

Hint: If Set Type is TRAP

ADD

Adding Set

Variable Name

proj_funding

Set Name

high

Set Type

TRAP

Dimension 1

70

Dimension 2

90

Dimension 3

100

Dimension 4

100

Hint: If Set Type is TRAP

ADD

Adding Variable

Variable Name

exp_level

Variable Type

IN

Lower Bound

0

Upper Bound

60

Crisp Value

40

Hint: If Variable Type is IN

ADD

Adding Set

Variable Name

exp_level

Set Name

beginner

Set Type

TRI

Dimension 1

0

Dimension 2

15

Dimension 3

30

Dimension 4

Hint: If Set Type is TRAP

ADD

Adding Set

Variable Name

exp_level

Set Name

intermediate

Set Type

TRI

Dimension 1

15

Dimension 2

30

Dimension 3

45

Dimension 4

Hint: If Set Type is TRAP

ADD

Adding Set

Variable Name

exp_level

Set Name

expert

Set Type

TRI

Dimension 1

30

Dimension 2

60

Dimension 3

60

Dimension 4

Hint: If Set Type is TRAP

ADD

Adding Variable

Variable Name

risk

Variable Type

OUT

Lower Bound

0

Upper Bound

100

Crisp Value

Hint: If Variable Type is IN

ADD

Adding Set

Variable Name

risk

Set Name

low

Set Type

TRI

Dimension 1

0

Dimension 2

25

Dimension 3

50

Dimension 4

Hint: If Set Type is TRAP

ADD

Adding Set

Variable Name

risk

Set Name

normal

Set Type

TRI

Dimension 1

25

Dimension 2

50

Dimension 3

75

Dimension 4

Hint: If Set Type is TRAP

ADD

Adding Set

Variable Name

risk

Set Name

high

Set Type

TRI

Dimension 1

50

Dimension 2

100

Dimension 3

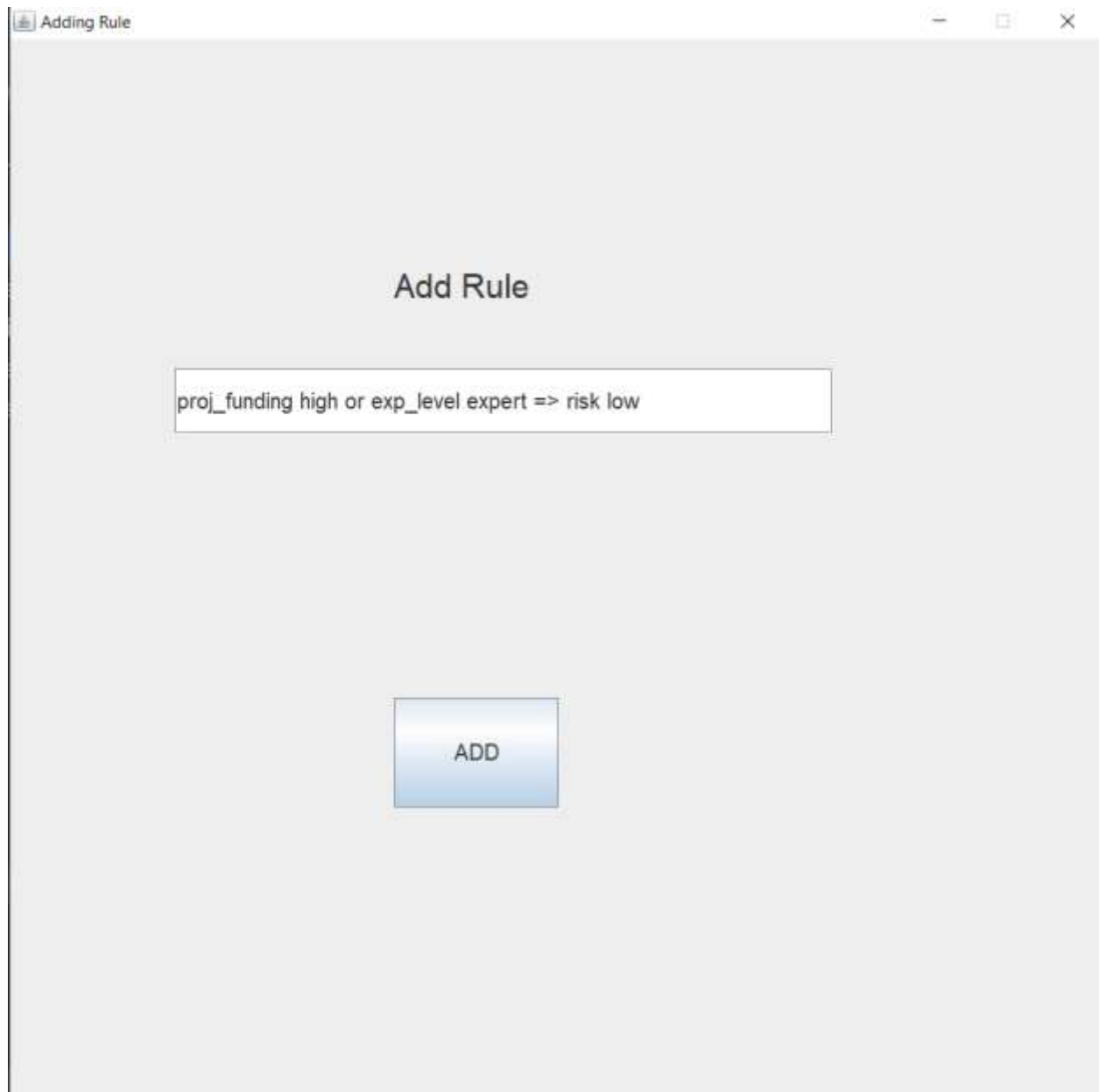
100

Dimension 4

Hint: If Set Type is TRAP

ADD

3: add rules

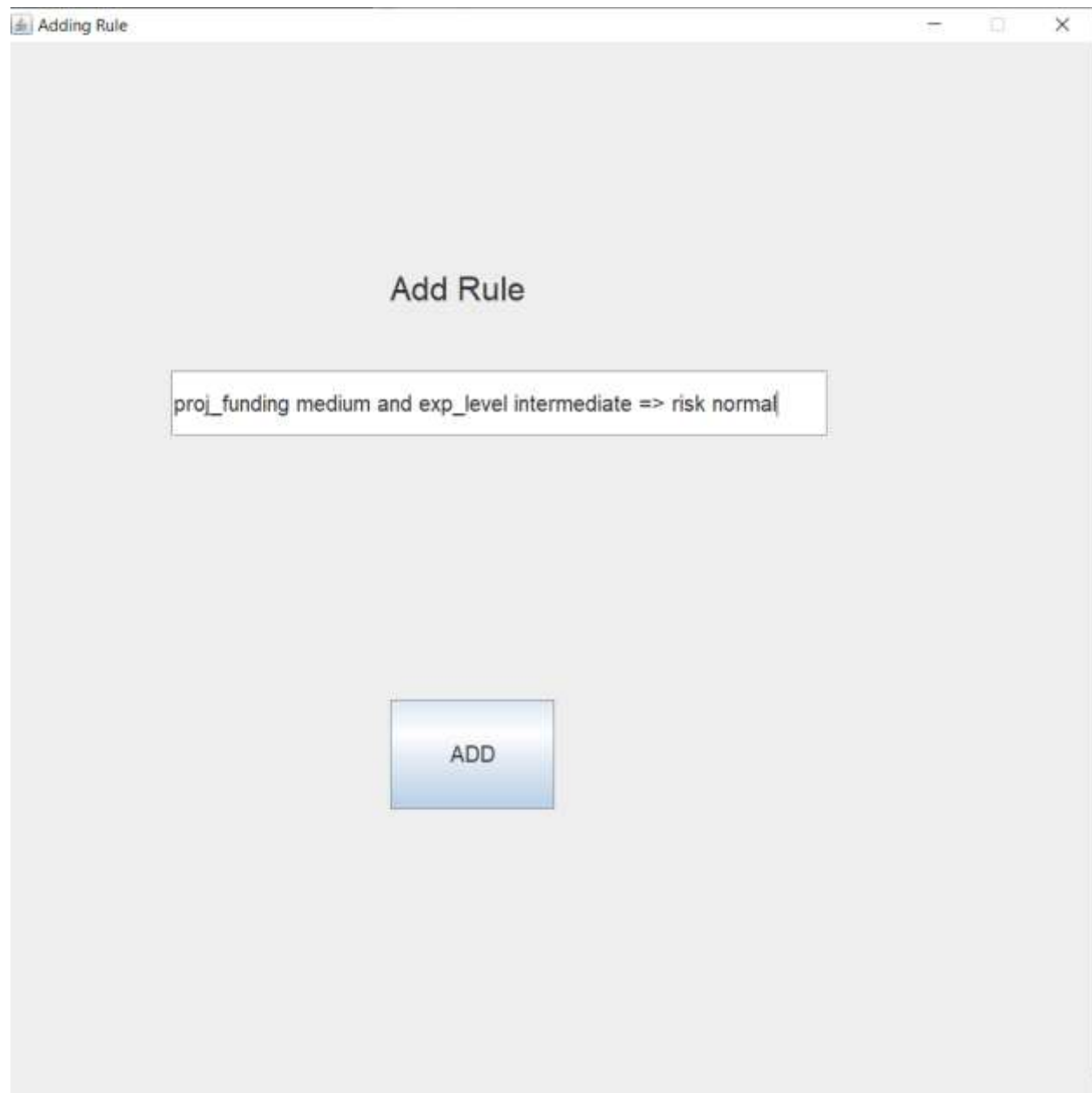


Adding Rule

Add Rule

proj_funding high or exp_level expert => risk low

ADD



Adding Rule



Add Rule

proj_funding medium and exp_level beginner => risk normal

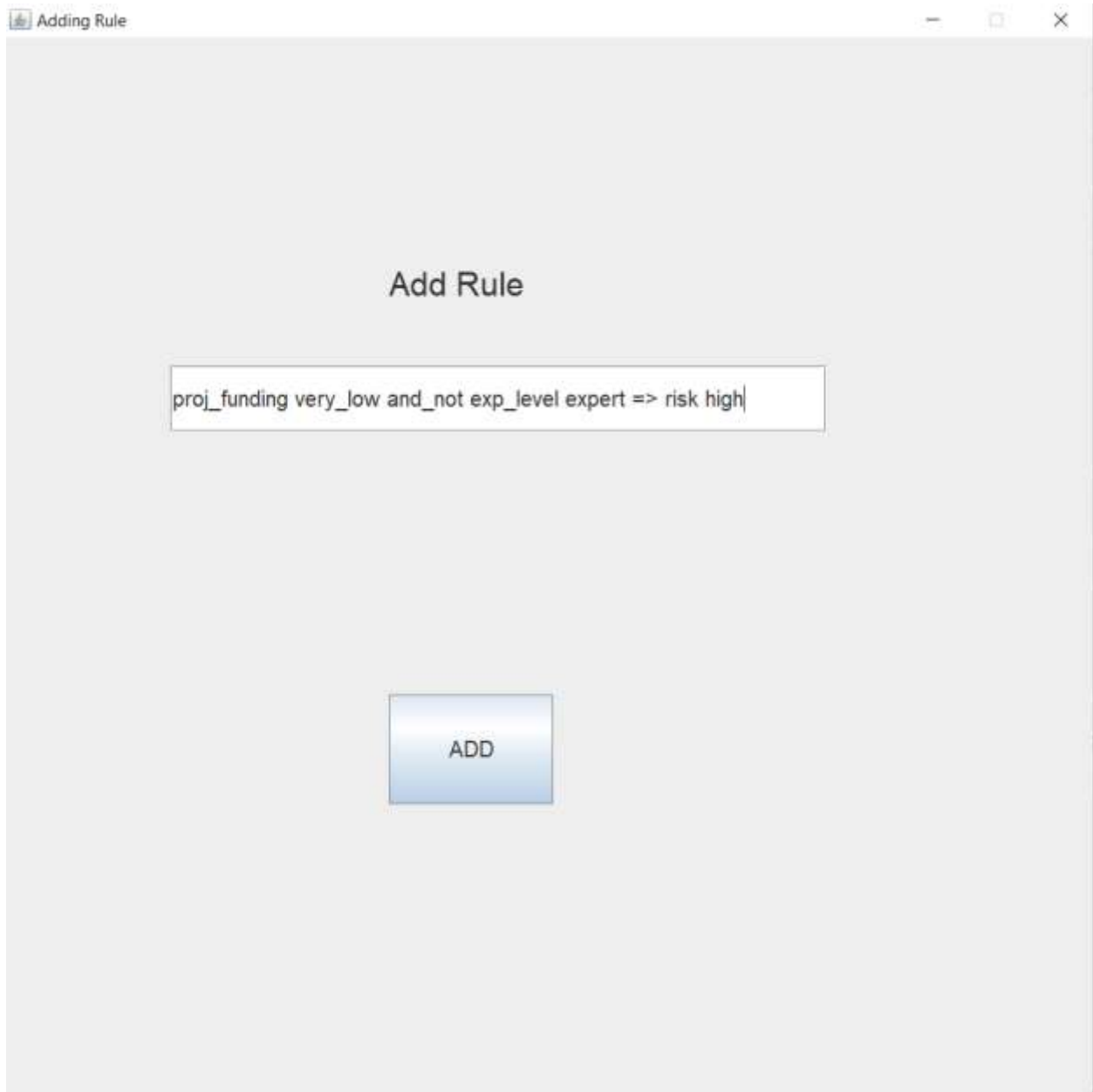
ADD

Adding Rule

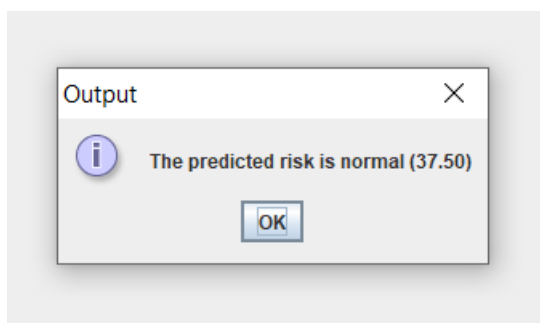
Add Rule

proj_funding low and exp_level beginner => risk high

ADD

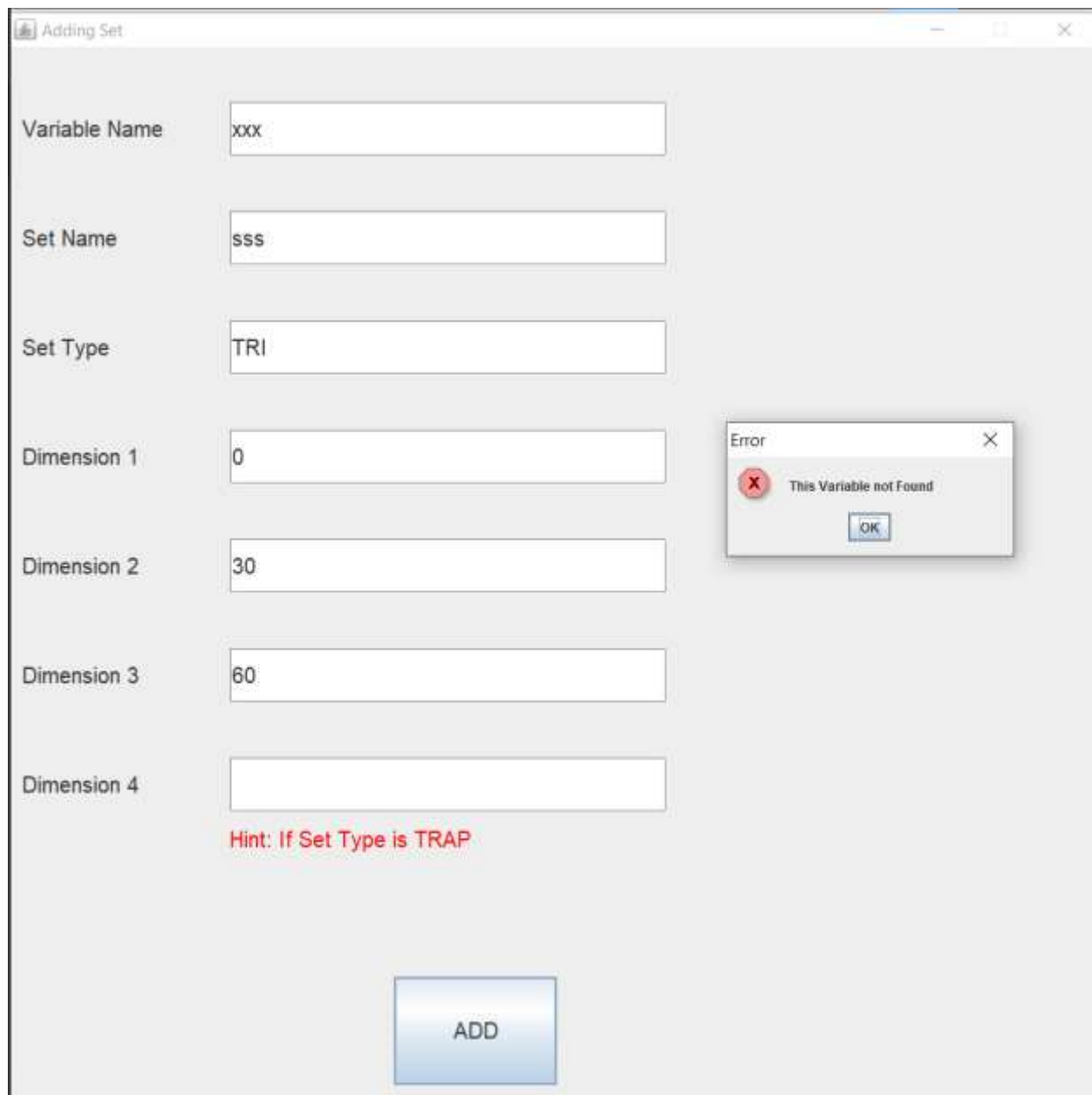


4: run the toolbox



Handling Errors:

1: adding set for nonexistent variable



The screenshot shows a software interface for adding a set. The main window is titled "Adding Set" and contains several input fields:

- Variable Name: xxx
- Set Name: sss
- Set Type: TRI
- Dimension 1: 0
- Dimension 2: 30
- Dimension 3: 60
- Dimension 4: (empty)

Below the input fields, there is a red hint text: "Hint: If Set Type is TRAP". At the bottom center, there is a blue "ADD" button.

An error dialog box is displayed on the right side of the main window. It is titled "Error" and contains a red "X" icon and the text "This Variable not Found". There is an "OK" button at the bottom of the error dialog.

2: running system without rules or variables

