

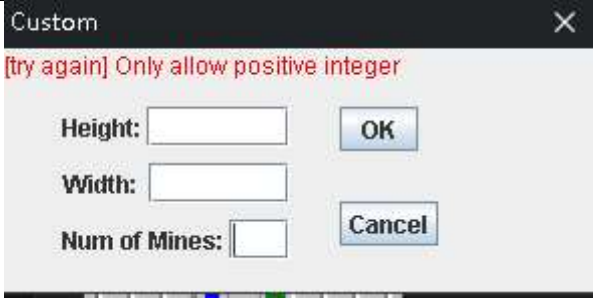
Declaration: I have followed the University Code of Conduct and Student Honor Code. This work was completed entirely by me and my groupmates. I have not used any unauthorized internet help, nor am I aware of any other person violating this code.

1. Work we did for handling errors:


- Avoid common run-time errors.
- Check valid inputs, respond in a useful way.
  - enter nothing.
  - expect positive number, but get negative.
  - expect an integer, get a decimal.
  - expect a number, get letters or other special characters.
- Check that values make sense, respond in a useful way.
  - expect a number for the amount of bombs in row 9 column 9, but they give 111.

2. Details about handling:

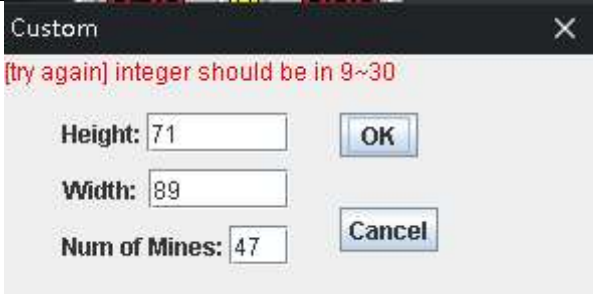
Class	UserDefinedDialog
Method	public void keyReleased(KeyEvent e)
Check	We check to make sure height, weight and the num of bombs are positive integer. If it isn't, then we show the dialog "[try again] Only allow positive integer". we also check to make sure height, weight and the number of bombs have correct digits. Using the Regular Expression: "[0-9]{1,2}\$".

	
Code	<pre> String text = jTextFieldHigh.getText();  Pattern pattern = Pattern.compile("[0-9]{1,2}\$"); Matcher matcher = pattern.matcher(text); if (!matcher.matches()) {     jLabelMessage.setText("[try again] Only allow positive integer");     if (text.length() &gt; 2) {         jTextFieldHigh.setText(text.substring(0, 2));     } }  String text = jTextFieldBomb.getText();  Pattern pattern = Pattern.compile("[0-9]{1,4}\$"); Matcher matcher = pattern.matcher(text); if (!matcher.matches()) {     jLabelMessage.setText("[try again] Only allow positive integer");     if (text.length() &gt; 4) {         jTextFieldBomb.setText(text.substring(0, 4));     } } </pre>

Class	UserDefinedListener
Method	public void actionPerformed(ActionEvent e)

Check	<p>We check to make sure the num of bombs is reasonable. If it isn't, then we show the dialog "[try again] no more than Height * Weight".</p> <p>E.g. row is 10, column is 10 ,mines should &lt;10*10.</p> 
Code	<pre>String mineT = userDefinedDialog.getjTextFieldBomb().getText(); int mine = 0; try {     mine = Integer.parseInt(mineT);     if (mine &gt;= row * col) {         userDefinedDialog.getjLabelMessage()             .setText("[try again] no more than Height * Weight");         return;     } } catch (Exception e3) {     userDefinedDialog.getjLabelMessage()         .setText("[try again] no more than Height * Weight");     return; }</pre>

Class	UserDefinedListener
Method	public void actionPerformed(ActionEvent e)
Check	we check to make sure height and weight are in the range of 9 to 30. If it isn't, then we show the dialog "[try again] integer should be in 9~30".

	
Code	<pre> String highT = userDefinedDialog.getjTextFieldHigh().getText();  Pattern pattern = Pattern.compile("[0-9]{1,2}\$");  Matcher matcher = pattern.matcher(highT);  int row = 0;  if (!matcher.matches()) {     userDefinedDialog.getjLabelMessage()         .setText("[try again] integer should be in 9~30");      return; } else {     row = Integer.parseInt(highT);      if (row &lt; 9    row &gt; 30) {         userDefinedDialog.getjLabelMessage()             .setText("[try again] integer should be in 9~30");          return;     } } </pre>