

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% The user is asked to input a file, and the program will then find the %
% errors. A message box then appears asking the user if he/she wants to %
% remove the rows containing the error. %
% %
% Input: N x M matrix (Student ID, Name and Assignments) %
% Output: N x M matrix (Student ID, Name and Assignments) %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

```

```
function Table = errorClear(filename)
```

```

%-----
%                               Initialisation
%-----

```

```

% Loads the file
filename = readtable(filename);

```

```

% Counts the rows and columns in the file
Rows      = height(filename);
Columns   = width(filename);

```

```

% Splits the numeric and student ID parts of the file in two separate tables
table = table2array(filename(: , 3:Columns));
StudentID = table2cell(filename(: , 1))';

```

```

% Allocates zeros in a matrix/vectors same size/height as input file
Omat  = zeros(size(filename));
Ovec  = cellstr(num2str(Omat(: , 1)));
Ovec2 = zeros(1 , Rows);

```

```

% Grades
scale = [12, 10, 7, 4, 02, 00, -3];

```

```

%-----
%                               Start
%-----

```

```

% Searches for identical student ID's and prints an error message. If
% identical student ID's are present, '1' is put into an empty vector (Ovec2)
% in the same position as the error occurred. If an ID is not already present,
% it will be put into another empty vector (Ovec) for comparison, then the
% loop will keep asking if a student ID is a part of the vector Ovec.

```

```

for i = 1:Rows
    if ismember(StudentID(i), Ovec)
        fprintf('Error detected: %s`s StudentID in row %0.0f has already parsed\n', char(filename.Name(i)), i)
        Ovec2(i) = 1;
    else
        Ovec(i) = StudentID(i);
    end
end

```

```

for i = 1:Rows
    for j = 1:Columns - 2
        % Prints error message with row number and name if grade is not
        % a part of the scale. If error occurs '1' is put into an empty
        % vector (Ovec2) in the same position as the error occurred
        if ~ismember(table(i , j) , scale)
            fprintf('Error detected: %s`s grade is invalid in row %0.0f \n', char(filename.Name(i)) , i);
            Ovec2(i) = 1;
        end
    end
end

```

```

        end
    end
end

% Defines question and title for popup message box
question = sprintf('Do you wish to remove rows containing errors?');
title = 'Data clear';

while true
    % Creates yes/no message box
    button = questdlg(question, title, 'Yes', 'No', 'Yes');

    % If yes is selected the rows containing errors (1's in Ovec2) are removed
    if strcmpi(button, 'Yes')

        % Inverted loop (7, 6, 5,...) to avoid early rows being removed
        % and causing error for the following rows
        for ii = Rows:-1:1
            if Ovec2(ii) == 1
                filename(ii,:) = [];
            end
        end

        % Closes the message box after loop is done
        Table = filename;
        disp(Table)
        break
    else

        % Closes the message box if no is selected
        Table = filename;
        break
    end
end

```