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## Setting up the environment

```
clear all;
close all;
warning('off', 'all'); % Turn back off after debugging

currentFile = matlab.desktop.editor.getActiveFilename; %
Get the full path of the active file
runfilelocation = fileparts(currentFile);

% Dynamically get the parent folder
[projectRoot, ~, ~] = fileparts(runfilelocation);
```

## Parse the excel file %% parseValues = excel\_file\_parser(projectRoot,'ExcelFile','ProblemDefinition'); % Extract excel values

*Warning: Column headers from the file were modified to make them valid MATLAB identifiers before creating variable names for the table. The original column headers are saved in the VariableDescriptions property.*  
*Set 'VariableNamingRule' to 'preserve' to use the original column headers as table variable names.*

## Problem selection %% selectedFunction = select\_function(projectRoot);

The available list of functions are:

1. S0001\_f\_5d\_Crash\_Problem
2. S0002\_f\_BeamDisplacement\_Problem
3. S0003\_f\_TestCrashProblem
4. S0004\_f\_TestCrash1
5. S0005\_f\_CrashDesignProblem
6. S0006\_f\_DemonstrationCrashProblem
7. S0008\_f\_cfk1d
8. S0009\_f\_cfk3d
9. S0010\_f\_cfkIter1
10. S0011\_f\_cfkIter2

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```
11. S0012_f_cfkIter3
12. tutorial_01_euclidean_distance_3d
You have selected function: tutorial_01_euclidean_distance_3d
```

## Create data manager

```
dataManager = SolutionSpaceData(parseValues.DesignVariable,...
    parseValues.QuantatitiesOfInterest,parseValues.DesignParameters,...
    parseValues.Labels, parseValues.PlotDesigns,...
    parseValues.ExtraOptions, selectedFunction);
```

```
dataManager.selectedFunction = selectedFunction;
```

## Create GUI

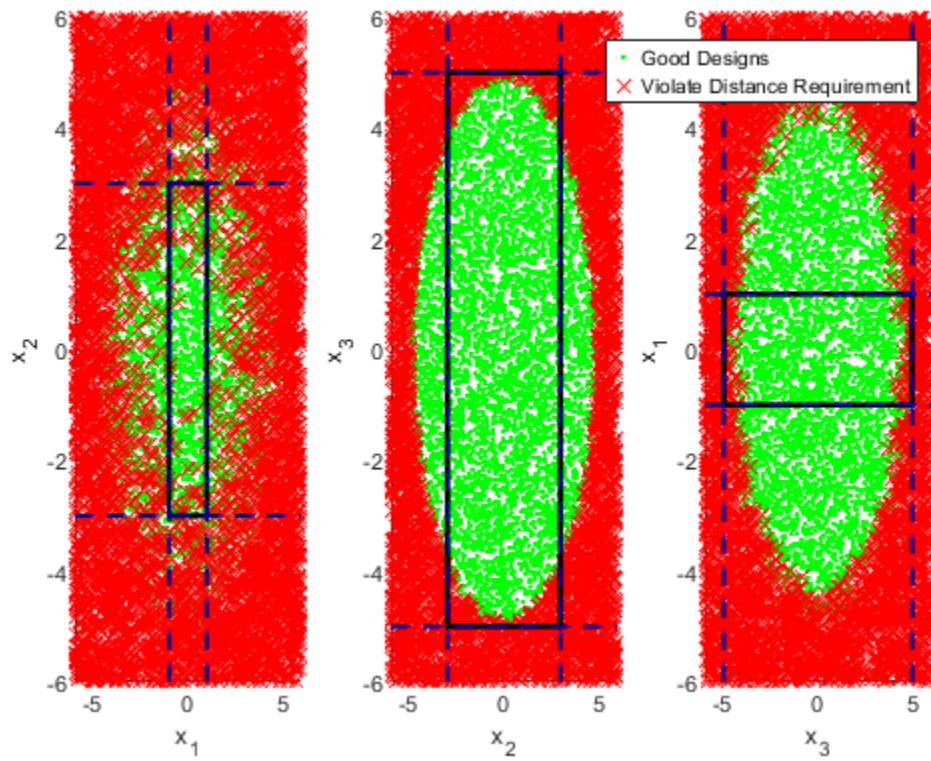
```
create_solution_space_GUI(dataManager);
```

```
Calculating performance measure...
Calculating performance measure...
Calculating performance measure...
Subplot 1: xVarIndex = 1, yVarIndex = 2
Subplot 2: xVarIndex = 2, yVarIndex = 3
Subplot 3: xVarIndex = 3, yVarIndex = 1
```



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### 3D Sphere - Box Decomposition



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