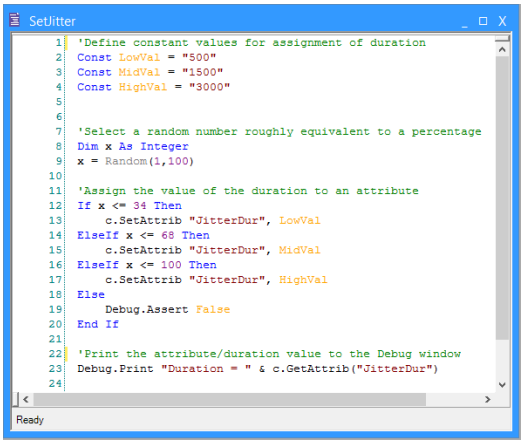
Advanced Tutorial: Script

This tutorial will modify the Tutorial.es3 experiment file created in the Getting Started Guide to introduce “jitter” in the duration of the Fixation. The duration of the Fixation object will be varied using E-Basic script to randomly select a value. The tutorial will introduce multiple key scripting concepts within the E-Basic language underlying E-Prime. The task remains the same as in the original Tutorial.es3 experiment; to name the color of the ink, regardless of the word, itself.



Contents

Task 1: Open Tutorial.es3 and save to a new filename

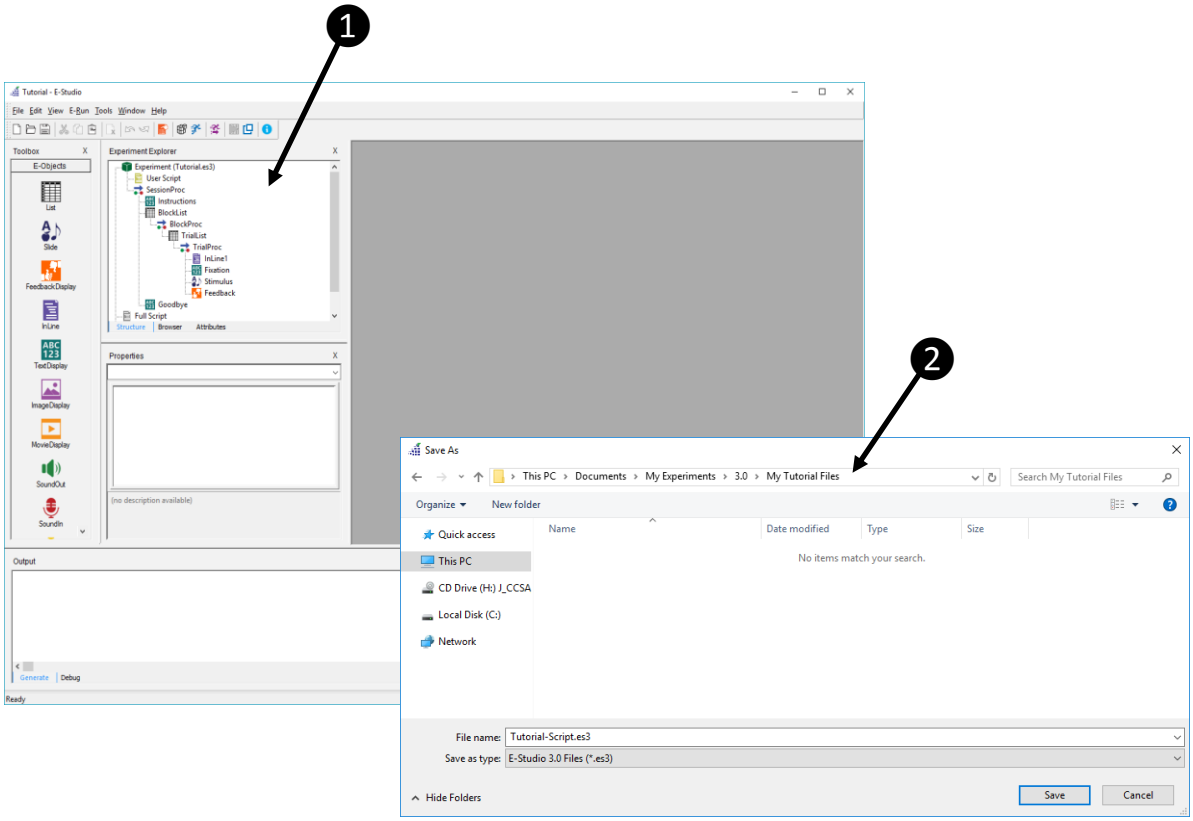
This task will build upon the experiment file created in the Getting Started Guide (i.e., Tutorial.es3). A completed version of the Tutorial experiment (AdvancedTutorialStart.es3) is included as part of the E-Prime installation in (\Documents\My Experiments\3.0\Tutorials).

1) ***Open*** the **Tutorial.es3** experiment file in E-Studio and ***review*** the **structure** of the experiment in the Experiment Explorer window.

   Open the .es3 file created while working through the Getting Started Guide, or use the completed version of the file included in the E-Prime installation as the starting point (AdvancedTutorialStart.es3). The experiment provides instructions to the subject, followed by a series of trials presenting a fixation, a stimulus, and feedback regarding response accuracy and reaction time.

2) ***Save*** the Tutorial.es3 experiment file as **Tutorial-Script.es3**.

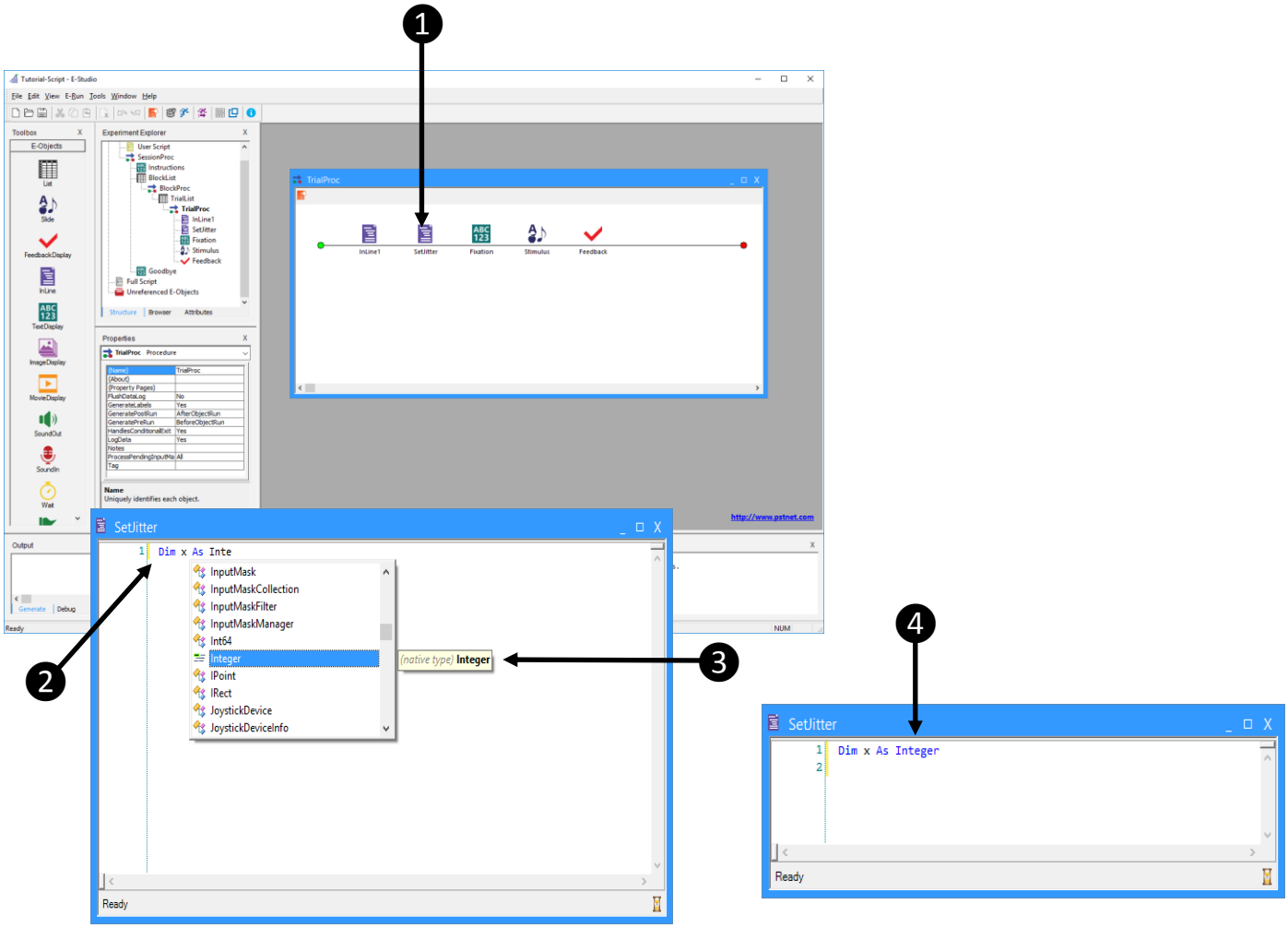
   Use the Save As command from the File menu. The \Documents\My Experiments\3.0 folder is a good place to create sub-folders (e.g., \My Tutorial Files) to organize your experiments for convenient access.



Task 2: Add an InLine object

This task will add an InLine object to the trial procedure and introduce the ScriptSense feature within E-Prime.

1) ***Add*** an **InLine** object to the trial procedure prior to the Fixation object, and ***rename*** the InLine object "**SetJitter**."
   The next few steps will insert a line of script into the SetJitter object to illustrate the functionality of the ScriptSense feature. Entry of the actual script to be used in the experiment will occur during the next task.
2) ***Open*** the **SetJitter** object in the Workspace, and begin to ***type*** "**Dim x As Integer**" into the object window.
   Notice that the E-Prime ScriptSense feature displays a list of relevant commands and properties to aid in the completion and editing of script. Refer to the ScriptSense article in the E-Prime online documentation for a description of ScriptSense features.
3) Continue typing until the desired item is identified, or ***scroll down*** in the ScriptSense **window** to locate the desired entry.
   The items displayed in the ScriptSense window are context-sensitive, and include only those commands or properties that are relevant to the current script context.
4) ***Double-click*** the desired **item,** or ***press*** **Enter** when the item is selected, to add it to the InLine object.
   The ScriptSense window will automatically close after selection of an item.



Task 3: Complete script entry

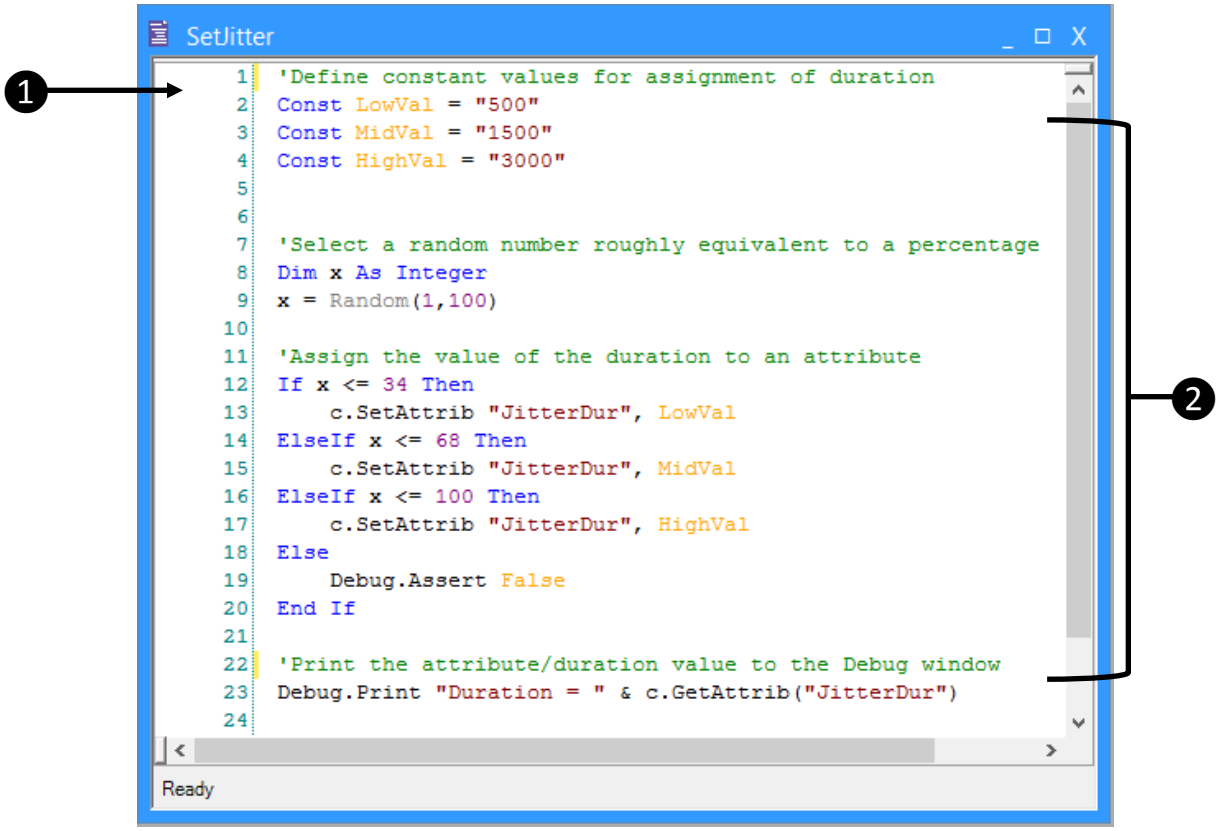
This task will complete entry of the script required to select a random value and assign a value to be used for the duration of the Fixation object. This task introduces key concepts within the E-Basic script language underlying E-Prime.

1) ***Delete*** the ***line of script*** entered during Task 2 from the InLine object window, and ***enter*** the **script** as indicated in the image of the SetJitter InLine object below.

   Review the table below for a description of each of the concepts illustrated in the script.

2) ***Review*** the **coloring** pattern within the script.

   The coloration of the script identifies syntax element types (green=comments, blue=keywords, black=statements, burgundy=strings, orange=constants) to aid in the readability of the script. Refer to the InLine Object and ScriptSense articles in the E-Prime online documentation for additional information and description of functionality within these objects.

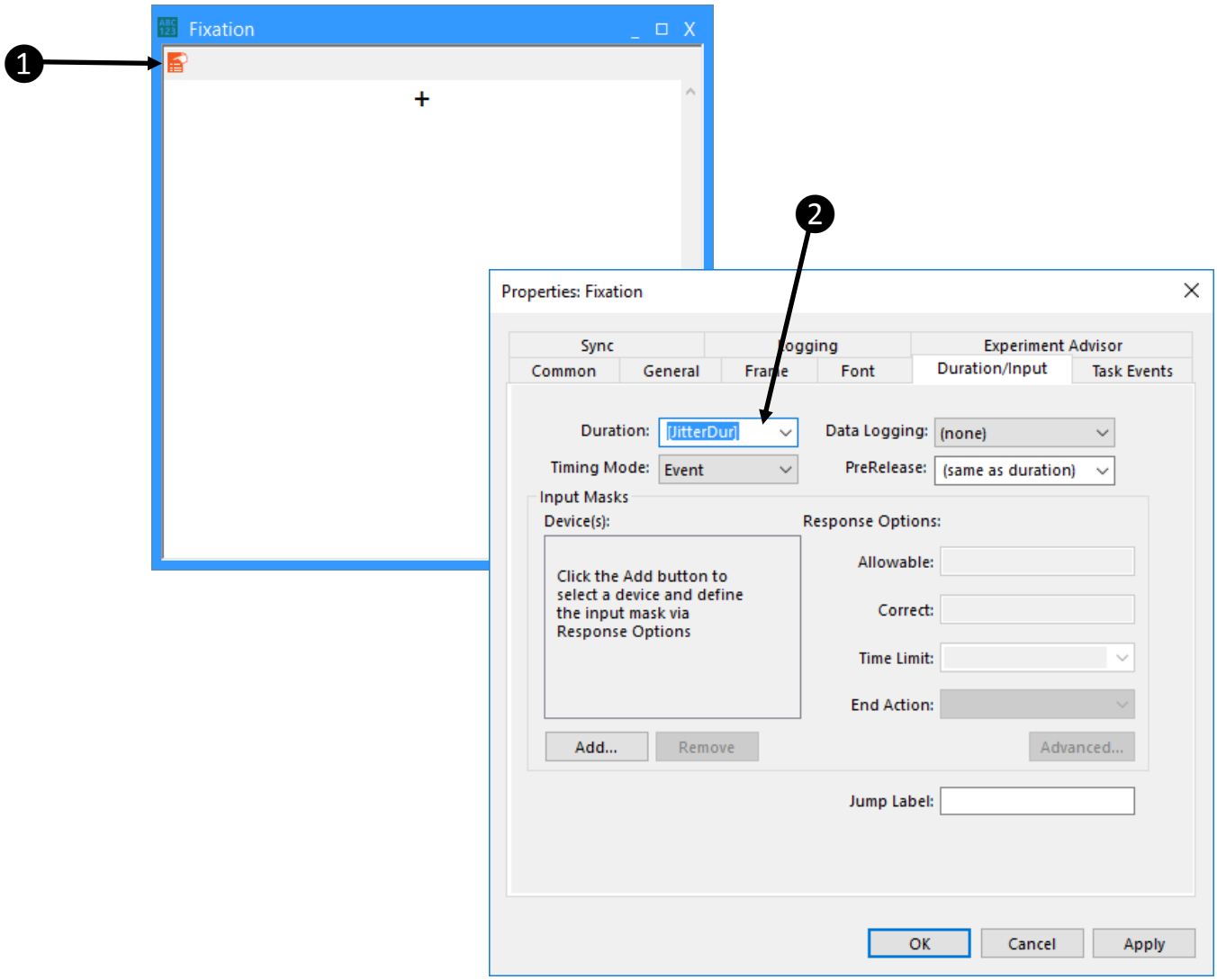


Concept	***Examples***	***Description***
Comments	'Define….	Informative statements to increase the readability of the script
Constants	Const	Variables with values that cannot change during script execution
Keywords	Dim, Integer, etc.	Any word or symbol recognized by E-Basic as part of the language
Variables	LowVal, x, etc.	Identifier used to store values to be used during script execution
Functions	Random	Commands providing specific functionality
Conditional	If…Then…Else	Executes different actions depending on the evaluation of the condition
Attributes	c.SetAttrib, c.GetAttrib	Variable values automatically logged in the data file which may be set or retrieved for use in experiment execution
Debug	Assert, Print	Commands used in debugging, problem solving, and error handling

Task 4: Modify Fixation

This task will modify the properties of the Fixation object to use the attribute specified in the SetJitter object script.

1) ***Open*** the **Fixation** object in the Workspace and ***display*** the object's **Property Pages**.
   Recall that the Fixation object simply presents a "+" fixation point prior to presentation of the stimulus.
2) On the Duration/Input tab, ***set*** the **Duration** field to reference the **[JitterDur]** attribute.
   The position of the SetJitter InLine prior to the Fixation results in the setting of the JitterDur attribute so that it is available when the Fixation object is run.

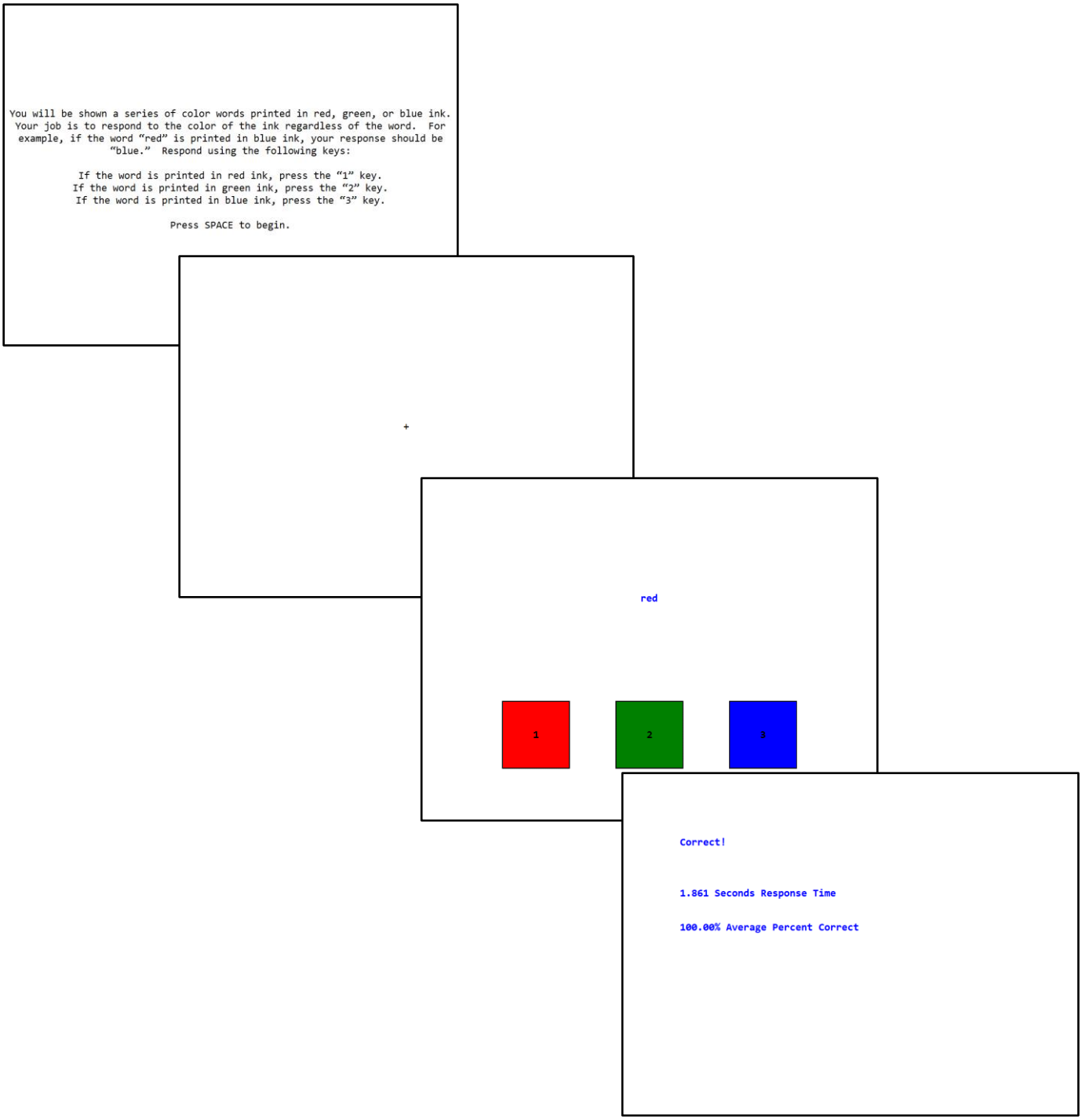


Task 6: Test the Experiment

This task will run the experiment file in E-Studio to test the modifications.

1) Click the Run button (or press F7) to test the experiment.

   As in the experiment used as a template (i.e., Tutorial.es3 or AdvancedTutorialStart.es3) the Tutorial-Script.es3 experiment will run a series of trials presenting a Stroop task. This variation of the Stroop experiment will present a color word (e.g., "blue") displayed in a congruent or incongruent ink color. The task is to respond to the color of the ink using the keyboard, and feedback will be provided concerning reaction time and accuracy. The duration of the "+" fixation prior to the stimulus will vary, and will be randomly determined via script. The selected duration value will be logged in the data file and printed to the Debug window at runtime.



Task 7: Examine Results

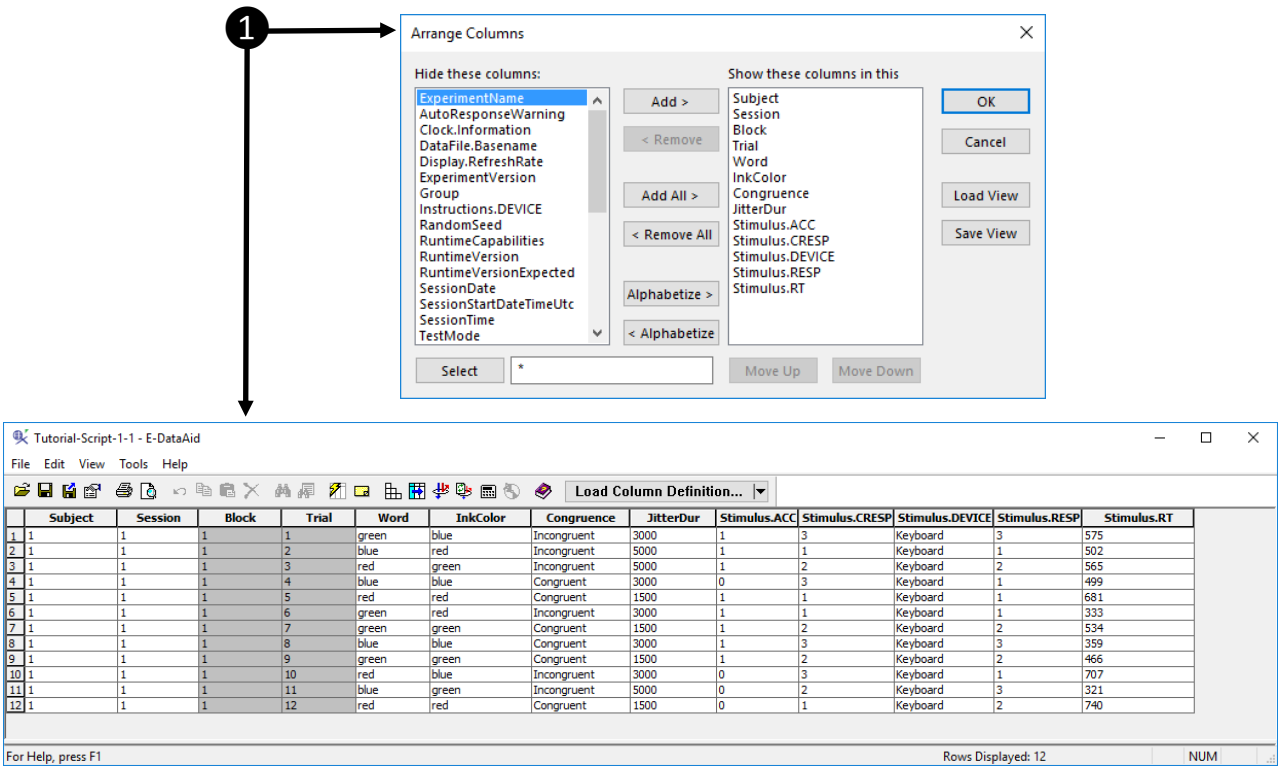
This task will view the data file generated by the test run, and perform an analysis.

1) Open the data file in E-DataAid and use Arrange Columns to limit the display to desired variables.

   As in the experiment used as a template (i.e., Tutorial.es3 or AdvancedTutorialStart.es3) the Tutorial-Script.es3 experiment will run a series of trials presenting a Stroop task. This variation of the Stroop experiment will present a fixation of varying duration prior to the stimulus.

2) Perform any desired analysis using the Analyze command.

   The analysis defined below examines the average reaction time in response to the stimulus by accuracy and the duration of the fixation.



	Subject	Session	Block	Trial	Word	InkColor	Congruence	JitterDur	Stimulus.ACC	Stimulus.CRESP	Stimulus.DEVICE	Stimulus.RESP	Stimulus.RT
1	1	1	1	1	green	blue	Incongruent	3000	1	3	Keyboard	3	575
2	1	1	1	2	blue	red	Incongruent	5000	1	1	Keyboard	1	502
3	1	1	1	3	red	green	Incongruent	5000	1	2	Keyboard	2	565
4	1	1	1	4	blue	blue	Congruent	3000	0	3	Keyboard	1	499
5	1	1	1	5	red	red	Congruent	1500	1	1	Keyboard	1	681
6	1	1	1	6	green	red	Incongruent	3000	1	1	Keyboard	1	333
7	1	1	1	7	green	green	Congruent	1500	1	2	Keyboard	2	534
8	1	1	1	8	blue	blue	Congruent	3000	1	3	Keyboard	3	359
9	1	1	1	9	green	green	Congruent	1500	1	2	Keyboard	2	466
10	1	1	1	10	red	blue	Incongruent	3000	0	3	Keyboard	1	707
11	1	1	1	11	blue	green	Incongruent	5000	0	2	Keyboard	3	321
12	1	1	1	12	red	red	Congruent	1500	0	1	Keyboard	2	740