Prompt Based Programming Data Collection

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Data Collection for Prompt Based Programming

Introduction

The prompt based programming approach is an user-interactive programming approach that is achieved through Stata's `_request()` option under `display` command. Everytime the `_request()` option was called, Stata will pause the current running program/do-file , print the content in the `display` command, and ask for user input to gather necessary information to proceed. Customizing the programs to gather information for key parameters through this pause-print-request style is called prompt based programming.

The unique information gathering style of prompt-based programming allows programs to: 1) mandatorily request parameters one at a time with instructions 2) build up check points before executions 3) allow program to be changed by the user without termination.

These features of prompts may be able to bring various benefits from multiple perspectives to help traditional program syntaxes in sitautions like the user is not familiar with Stata codes, the user does not know the program well and the instructions are limited, or multiple options and long lists need to be specified through syntaxes. The instructed parameter intake style requires less user effort to study program syntaxes. The introduction of check points, along with the ability to change without termination, helps avoid wrong executions thus reduce the costs of error.

The benefits of prompt based programming apporach may reduce the costs of learning, and prevent/fix human error at low costs. In this data collection process, we would like to gather information about user experience of different programming approaches, and explore how much the prompt based programming approach may help.

Main Idea

Through this data collection, piloting users will be given three sets of two programs with different programming appraoches (prompt based approach vs. traditional program syntaxes) but exactly the same functions to achieve the same statistical analytical goals in eahc set. These three sets of programs range from simple to very complex. Through the completion of the analytical goals, user experience like running time and user's subjective opinion about difficulties of using the two different approach programs will be gathered.

Program Sets:

When running the programs, please remember to record the running time displayed in each program set. If needed, running time may be able to find out through global macros:

Simple Level: `${srt1}` `${srt2}`

Intermediate Level: `${irt1}` `${irt2}`

Complex Level: `${crt1}` `${crt2}`

Complexity Level - Simple

```
do "https://raw.githubusercontent.com/Vince-Jin/Prompt/main/prompt_v1.ado"
prompt_v1
```

Complexity Level - Intermediate

```
do "https://raw.githubusercontent.com/Vince-Jin/Prompt/main/pilot.ado"
pilot
```

Complexity Level - Complex

```
do "https://raw.githubusercontent.com/Vince-Jin/Prompt/main/program753.ado"
program753
```

User Experience Survey

Please find the excel sheet for user experience information here: https://docs.google.com/spreadsheets/d/1oQxx83eX7sIIDbyV8frowY8EXuYpRAuudRxnVdfNSQg/edit?usp=sharing

Please ignore the ID column and use the next available blank row

Section 1: Complexity Level - Simple

Q1: Please enter the running time showed for prompt-based programming approach:

Q2: Please enter the running time showed for traditional program syntax approach:

Q3: Plesase choose which approach you felt easier to achieve the analytic goal: (1 - Prompt-Based; 2 - Traditional Syntax; 3 - Roughly The Same)

Section 2: Complexity Level - Intermediate

Q4: Please enter the running time showed for prompt-based programming approach:

Q5: Please enter the running time showed for traditional program syntax approach:

Q6: Plesase choose which approach you felt easier to achieve the analytic goal: (1 - Prompt-Based; 2 - Traditional Syntax; 3 - Roughly The Same)

Section 3: Complexity Level - Complex

Q7: Please enter the running time showed for prompt-based programming approach:

Q8: Please enter the running time showed for traditional program syntax approach:

Q9: Plesase choose which approach you felt easier to achieve the analytic goal: (1 - Prompt-Based; 2 - Traditional Syntax; 3 - Roughly The Same)

Section 4: User Background

Q10: Please indicate how many years you have used Stata: (1 - less than 1 year; 2 - 1 to 3 years; 3 - 3 to 5 years; 4 - more than 5 years)

Q11: Please indicate how you rate your familarity with Stata: (1 - Beginner; 2 - Intermediate; 3 - Advanced; 4 - Expert)

Q12: Please indicate how long you have been used other programming langauge or statistical software (R, Python, C++, Java, HTML, SAS, and etc.): (1 - less than 1 year; 2 - 1 to 3 years; 3 - 3 to 5 years; 4 - more than 5 years)