Advanced Programming – Part 2

Exercise: Options

Task 3

Create a program that accepts only one numeric variable as input and either creates a new variable or replaces the selected variable by its absolute values (the user should have the choice whether to replace the old variable or to generate a new one).

a. If a new variable is generated, it should be named by the old variable plus the suffix "_new".

Example (using auto.dta):

```
. task3 price, new(on)

. su price*
```

Variable	Obs	Mean	Std. Dev.	Min	Max
price	74	6165.257	2949.496	3291	15906
price_new	74	6165.257	2949.496	3291	15906

b. The program should display an error message and stop if the user did not specify the option to replace or generate correctly.

```
. task3 price, new(test)
Please specify "on" or "off" in the option new()
```

c. If a new variable is generated, it should be optional to specify a suffix that is attached to the old variable's name. If no suffix is specified by the user, the suffix from (a) should be used.

```
. task3 price, new(on) suf(t)

. su price*
```

Variable	Obs	Mean	Std. Dev.	Min	Max
price	74	6165.257	2949.496	3291	15906
price_t	74	6165.257	2949.496	3291	15906

Task 4

Generate a program which takes numeric variables as input,

- calculates for each variable the difference between two percentiles the user chooses
- displays the result and
- stores the result in r().

The program should work for more than one variable and accept if- and in-conditions.

Example (using auto.dta):

```
. task4 price weight, perc1(20) perc2(80)
The difference between the percentiles 20 and 80 for price is 3728
The difference between the percentiles 20 and 80 for weight is 1540

. return list

scalars:
        r(diff_weight) =  1540
         r(diff_price) =  3728
```

Bonus: The program produces an error message but does not stop if a string variable is part of the input. Hint: Use the “strok” option for the marksample command.

```
. task4 make price weight, perc1(20) perc2(80)
Not calculated for string variable make
The difference between the percentiles 20 and 80 for price is 3728
The difference between the percentiles 20 and 80 for weight is 1540
```