Consider the following SAS Data Set `Profile`:

Profile								
Acct_ID	Name	Birthday	Sex	State	Cust_Type	Product	Balance	Last_Tran_Date
1001	John	1/1/1962	M	CA	Gold	Checking	1000	9/1/2015
1002	Mary	2/1/1972	F	CA	Silver	Saving	2000	10/1/2015
1003	Peter	3/1/1982	M	NY	Gold	Loan	3000	10/3/2016
1004	Mary	4/1/1992	F	NY	Silver	Checking	4000	9/17/2016
1005	Linda	5/1/1994	F	WA	Gold	Saving	5000	
1006	Susan	6/1/1997	F	WA	Gold	Loan	1000	9/15/2016
1007	Sam	7/1/1999	M	CA	Gold	Checking	2000	2/1/2016
1008	Thomas	8/1/1962	M	CA	Silver	Checking	3000	7/1/2016
1009	Linda	9/1/1982	F	NY	Silver	Saving	4000	

* where `Birthday` and `Last_Tran_Date` are numeric variables with SAS date values.

Your business client would like to see a report, and she sent you the following mock-up:

Title:	Detail Listing of Account				Run Date:	(Current Date)
State:	CA, NY		Age:	>=40	Tran Year:	2017
Acct_ID	Name	Age	Balance	Last_Tran_Date		
1001						
1002						
Total Balance						

Write 1 macro that creates a report like above for the given dataset. The inputs in yellow ***may be optionally*** provided to you. If the yellow optional paramerters are not provided, you can assume all or current based on parameter type.

1. title of the report (e.g. “Detail Listing of Account”). If not specified then don’t display title.
2. vaiables to report. If not specified then use all. In the example above, it’s:

- `Acct_ID  Name  Age  Balance  Last_Tran_Date`

3. whether a “Total Balance” row is displayed.

4. selection criteria by `State`. This should accommodate both “one state” as well as “multiple states”. You may define how the user specifies such a criterion in a reasonable way. If not specified then use all. For example, user might specify this as:

    - `'CA'`
    - `'CA','NY'`

5. selection criteria by **Age** (by looking at the `Birthday` field). You may define how the user specifies such a criterion in a reasonable way. If not specified then use all. For example, user might specify this as:

    - `'<18'`
    - `'18-40'`

6. selection criteria by **year** of `Last_Tran_Date`. If not specified then use current year. User might specify this as:

    - `2017`

Additionally:

- Please include a few representative examples of how your macro is invoked.

- The format of your report output does not need to be exactly as depicted in the mock-up above, as long as it shows the same information in a reasonable format.

Sample Macro Inputs:

- %macroname (**title** = ‘Detail Listing of Account 2007’, **vars** = Acct_ID Name Age Balance Last_Tran_Date, **show_total** = ‘Yes’, **states** = 'CA','NY', **age** = ‘<18’, **Last_Tran_Date** = 2017)

- %macroname (**title** = ‘Detail Listing of Account’, **vars** = Acct_ID Name Last_Tran_Date, **show_total** = ‘No’, **states** = 'CA', **age** = ’18-40’)

- %macroname (**vars** = Acct_ID Name Last_Tran_Date, **states** = 'CA', **age** = ‘>=25’)

- %macroname (**title** = ‘Detail Listing of Account’)

As you can see, all parameters are optional.

Note: ***A well-formatted and easy-to-read answer will be given extra credit,*** *as it reflects your attention to detail and your overall professionalism. If you do not know all the answers, simply complete as much as you can. Evaluation of your solution includes* <u>*how well*</u> *you apply your knowledge, not just how much you know.*

`Answer – Macro code:` *(insert lines as needed)*

Answer – Macro execution: *(insert lines as needed)*