- **I suggest to use 'C:\SASCOURSE' as your course folder.**
- **All the files needed for the following questions are placed in the folder 'C:\SASCOURSE\homework\questions**

Q1. The text file 'Account.txt' contains the attributes -- Account ID, Credit Limit, Account Balance and Open Date. Write SAS DATA STEP programs for the following questions:

1. Read the text data file into a SAS data set and save it into a library under the current folder. Name the table as 'account'.
2. Create a new data set with the name 'UT_SAS' that contains an additional resulting column by calculating 'credit utilization', i.e. Utilization = Account Balance / Credit Limit.
3. Write the data set 'UT_SAS' into a text file named as 'UT_export.txt'.

Q2. Apply DATA STEP to read the TXT file 'measure_body_1.txt' into a SAS table. Note,

- Use the following variables (columns)'ID', 'HEIGHT', 'WEIGHT', 'GENDER' and 'AGE'
- Assign the name of data set as 'measure_1'
- The delimiter here is COMMA (',')
- Save the resulting data set in the WORK library.

Q3. Apply DATA STEP to read the TXT file 'measure_body_2.txt'. Note,

- Read the following variables (columns)'ID', 'HEIGHT',' WEIGHT', GENDER' and 'AGE'
- The delimiter here is the PIPE LINE ('|')
- Some columns have missing values.
- Save the resulting data set as'WORK.measure_2'

Q4. Write a DATA STEP program to read a TXT file 'measure_body_3.txt' into a SAS table. Note,

- Read the following attributes 'ID', 'LASTNAME', 'DOB',' HEIGHT',' WEIGHT',' GENDER' and ' AGE'
- The delimiter here is a SPACE (' ')
- Name the resulting data set as 'WORK.measure_3'

Q5. Check the TXT file 'call_information.txt'. Write a DATA STEP program to read this TXT file into a SAS table 'callcenter_data' in WORK library. Note,

- All the columns will be read as CHARACTER type
- The Attributes include 'Date', 'Time', 'ANI', 'MDN', 'ClientNum', 'Ans1', 'Ans2', 'Ans3', 'Ans4', 'MsgInd', 'Start_time', 'End_time' and 'Router_Call_Key'
- The delimiter is COMMA (',')
- The first row in the TXT file contains column names
- There are missing values in some columns.

Q6. Write DATA STEP program to read the TXT file 'books.txt' based on the following input layout:

REF#	FILED NAME	START	END	LENGTH	TYPE
1	book	1	9	9	CHARACTER
2	sales	12	16	5	NUMERIC
3	type	18	30	13	CHARACTER
4	salesdate	32	41	10	NUMERIC (MMDDYY10.)

The resulting data set is 'WORK.books'.

Q7. Copy the following data into SAS program editor.

- Read the variables 'ID' and 'sex' matching the data on different rows to create a SAS table 'customer_info'.
- Create a new numeric column 'point' in the table 'customer_info'
- Assign the value 3 to each observation of the attribute 'point'

```
1  M  2  M  3  .   4  F  5  F  6  .  7  F

8  M  9 .

10  M  11  F  12  F  13  .  14   .  15  M
```

Q8. Check the following SAS codes. Explain the purpose for the program.

```
DATA MIXED;
INPUT @20 TYPE $1. @;
IF TYPE = '1' THEN
INPUT ID 1-3
AGE 4-5
WEIGHT 6-8;
ELSE IF TYPE = '2' THEN
INPUT ID 1-3
AGE 10-11
WEIGHT 15-17;
DATALINES;
00134168           1
00245155           1
003      23   220  2
00467180           1
005      35   190  2
;
run;
```

Q9. Copy the following data into the SAS editor window and use DATA STEP DATALINES' to read the data into a SAS table. Where,

- The positions from 1 to 3 hold the value of the attribute 'ID'.
- The positions from 4 to 8 hold the values of the columns 'Q1', 'Q2'...'Q5'.
- The next 10 positions hold the values of the fields 'Q6' 'Q7','Q8','Q9' and 'Q10', with every 2 positions for each column.
- The fields 'HEIGHT' and 'AGE' take the last 4 positions, with 2 positions for each.
- Please read data using repeating variable pattern (i.e. use bracket).

```
10111324101614151568 23
10214332121214131672 21
10323342141412121066 28
10415532161613141266 22
```

Q10. Browse the TXT file 'rent_people.txt', which contains the variables in the following order

- (1)Current street number (2) Current street name (3) Past street number (4) Past Current street name.
- As there are space (' ') symbols in the address text string and blank field, the different columns are separated by at least two spaces.
- Please write a DATA STEP program to read the data in the TXT file into a SAS table. (Hint: apply informant modifier).

Q11. Read the CSV file 'businessacc.CSV' into a SAS data set from your current folder. Note,

- Open the file to check the headers and contents.
- The attributes include id (TYPE=C), num Bureau (TYPE=C), tradeline (TYPE=C), open_date (TYPE=N with input format mmddyy10.), acc_num (TYPE=N), limited (TYPE=N), Acc_banlance (TYPE=N), Am_pastdue(TYPE=N), monthly_pay(TYPE=N), acc_name(TYPE=C) and acc_type(TYPE=C)).