Homework #3

Exercise#1:

Program file

```
data VOTE;

  INFILE 'J:\\CLASSES\STAT46\POLITICAL.csv' dsd;
  Input State $ Party $ Age;
  run;

  title 'Listing of the Observations in Vote';
proc print data=Vote;
  run;

  title 'Frequencies for Party';
proc freq data=Vote;
    table Party;
  run;


  run;
```

Output file

Listing of the Observations in Vote

Obs	State	Party	Age
1	NJ	Ind	55
2	CO	Dem	45
3	NY	Rep	23
4	FL	Dem	66
5	NJ	Rep	34

Frequencies for Party

The FREQ Procedure

Party	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Dem	2	40.00	2	40.00
Ind	1	20.00	3	60.00
Rep	2	40.00	5	100.00

Log File

```
1    data VOTE;
2
3    INFILE 'J:\\CLASSES\STAT46\POLITICAL.csv' dsd;
4    Input State $ Party $ Age;
5    run;

NOTE: The infile 'J:\\CLASSES\STAT46\POLITICAL.csv' is:
      Filename=J:\\CLASSES\STAT46\POLITICAL.csv,
      RECFM=V,LRECL=32767,File Size (bytes)=55,
      Last Modified=13Sep2018:22:57:11,
      Create Time=13Sep2018:20:45:47

NOTE: 5 records were read from the infile 'J:\\CLASSES\STAT46\POLITICAL.csv'.
      The minimum record length was 9.
      The maximum record length was 9.
NOTE: The data set WORK.VOTE has 5 observations and 3 variables.
NOTE: DATA statement used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds


6
7    title 'Listing of the Observations in Vote';
8    proc print data=Vote;
NOTE: Writing HTML Body file: sashtml.htm
9    run;

NOTE: There were 5 observations read from the data set WORK.VOTE.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.46 seconds
      cpu time            0.42 seconds


10
11   title 'Frequencies for Party';
12   proc freq data=Vote;
13     table Party;
14   run;

NOTE: There were 5 observations read from the data set WORK.VOTE.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.02 seconds
      cpu time            0.01 seconds
```

```
10
11    title 'Frequencies for Party';
12    proc freq data=Vote;
13      table Party;
14    run;

NOTE: There were 5 observations read from the data set WORK.VOTE.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.02 seconds
      cpu time            0.01 seconds


15
16
17    run;
```

Exercise #2:

```
filename PARTY 'J:\\CLASSES\STAT46\POLITICAL.CSV';

data VOTE;
    Infile Party dsd;
    input State $ Party $ Age;

run;
```

Exercise #3:

```
data  Bank;
   infile 'j:\CLASSES\STAT46\Bankdata.txt';
   INPUT Name $ 1 - 15
         Acct $ 16 - 20
         Balance 21 - 29
         Rate     30 - 33;

         Interest=Balance*Rate/100;
run;

proc print data=Bank;
run;
```

Note that the rate, in this case of accounts and banking, is expressed as a percentage, so when the variable rate takes a value 2, it means, in fact, that the rate is at 2%. So when we look for the interest earned on a given balance, we need to take into account that the rate is a percentage: this explains why the expression of interest is:
Interest = Balance *2/100

Log:

```
101  data  Bank;
102    infile 'j:\CLASSES\STAT46\Bankdata.txt';
103    INPUT Name $ 1 - 15
104          Acct $ 16 - 20
105          Balance 21 - 29
106          Rate      30 - 33;
107
108          Interest=Balance*Rate/100;
109  run;

NOTE: The infile 'j:\CLASSES\STAT46\Bankdata.txt' is:
      Filename=j:\CLASSES\STAT46\Bankdata.txt,
      RECFM=V,LRECL=32767,File Size (bytes)=140,
      Last Modified=13Sep2018:22:45:38,
      Create Time=13Sep2018:20:55:42

NOTE: 4 records were read from the infile 'j:\CLASSES\STAT46\Bankdata.txt'.
      The minimum record length was 33.
      The maximum record length was 33.
NOTE: The data set WORK.BANK has 4 observations and 5 variables.
NOTE: DATA statement used (Total process time):
      real time           0.02 seconds
      cpu time            0.00 seconds


110
111  proc print data=Bank;
NOTE: Writing HTML Body file: sashtml3.htm
112  run;

NOTE: There were 4 observations read from the data set WORK.BANK.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.26 seconds
      cpu time            0.20 seconds
```

Results:

Obs	Name	Acct	Balance	Rate	Interest
1	Philip Jones	V1234	4322.32	2.0	86.45
2	Nathan Phillips	V1399	15202.45	1.5	228.04
3	Shu Lu	W8892	451233.45	2.0	9024.67
4	Betty Boop	V7677	50002.78	3.0	1500.08

Exercise #4:

```
data Stocks;
     infile 'J:\CLASSES\STAT46\Stockprices.txt';
     input @1 Stock          $    4.
           @5 PurDate    mmddyy10.
           @15 PurPrice         6.
           @21 Number           4.
           @25 SellDate  mmddyy10.
           @35 SellPrice        6.;

*Compute New Variables;
      TotalPur = Number*PurPrice;
      TotalSell = Number*SellPrice;
      Profit = TotalSell-TotalPur;

      Format  PurDate  date9.
              SellDate date9.
              PurPrice  dollar11.1
              SellPrice dollar11.1
              TotalPur  dollar11.0
              TotalSell dollar11.0
              Profit    dollar11.0;          ;
run;

proc print data=Stocks;
run;
```

The SAS System

Obs	Stock	PurDate	PurPrice	Number	SellDate	SellPrice	TotalPur	TotalSell	Profit
1	IBM	21MAY2006	$80.0	100	20JUL2006	$88.5	$8,000	$8,850	$850
2	CSCO	05APR2005	$17.5	200	21SEP2005	$23.6	$3,500	$4,720	$1,220
3	MOT	01MAR2004	$14.7	500	10OCT2006	$19.9	$7,350	$9,950	$2,600
4	XMSR	15APR2006	$28.4	200	15APR2007	$12.7	$5,680	$2,540	$-3,140
5	BBY	15FEB2005	$45.2	100	09SEP2006	$56.8	$4,520	$5,680	$1,160

Log file:

```
83   data Stocks;
84       infile 'J:\CLASSES\STAT46\Stockprices.txt';
85       input @1 Stock          $   4.
86             @5 PurDate   mmddyy10.
87             @15 PurPrice        6.
88             @21 Number          4.
89             @25 SellDate  mmddyy10.
90             @35 SellPrice        6.;
91
92   *Compute New Variables;
93
94        TotalPur = Number*PurPrice;
95        TotalSell = Number*SellPrice;
96        Profit = TotalSell-TotalPur;
97
98        Format  PurDate  date9.
99                SellDate date9.
100               PurPrice  dollar11.1
101               SellPrice dollar11.1
102               TotalPur  dollar11.0
103               TotalSell dollar11.0
104               Profit    dollar11.0
105               ;
106  run;

NOTE: The infile 'J:\CLASSES\STAT46\Stockprices.txt' is:
      Filename=J:\CLASSES\STAT46\Stockprices.txt,
      RECFM=V,LRECL=32767,File Size (bytes)=208,
      Last Modified=13Sep2018:22:32:28,
      Create Time=13Sep2018:21:03:15

NOTE: 5 records were read from the infile 'J:\CLASSES\STAT46\Stockprices.t
      The minimum record length was 40.
      The maximum record length was 40.
NOTE: The data set WORK.STOCKS has 5 observations and 9 variables.
NOTE: DATA statement used (Total process time):
      real time           0.05 seconds
      cpu time            0.03 seconds


107
108  proc print data=Stocks;
NOTE: Writing HTML Body file: sashtml1.htm
109  run;

NOTE: There were 5 observations read from the data set WORK.STOCKS.
NOTE: PROCEDURE PRINT used (Total process time):
```