Chapter 1

2. In the following list, classify each data set name as valid or invalid:
   
   Clinic valid
   clinic valid
   Work valid
   hyphens-in-the-name invalid
   123GO invalid
   Demographics_2006 valid

4. True or false:
   a. You can place more than one SAS statement on a single line. True
   b. You can use several lines for a single SAS statement. True
   c. SAS has three data types: character, numeric, and integer. False
   d. OPTIONS and TITLE statements are considered global statements. True

Chapter 2

2. Given the program here, add the necessary statements to compute four new variables:

```sas
data prob2;
input ID $;
Height /* in inches */
Weight /* in pounds */
SBP /* systolic BP */
DBP /* diastolic BP */;
WtKg = Weight / 2.2 /* in pounds kilograms (1 kg = 2.2 pounds) */;
HtCm = Height * 2.54 /* in centimeters (1 inch = 2.54 cm) */; AveBP = DBP + 1/3 /* (SBP - DBP); */
HtPolynomial = 2 * (HtCm ** 2) + 1.5 *(HtCm ** 3);
datalines;
001 68 150 110 70
002 73 240 150 90
003 62 101 120 80
;
title "Listing of PROB2";
proc print data=prob2;
run;
```
4. What is wrong with this program?

```
001 data new-data;
002 infile prob4data.txt;

003 input x1 x2;
004 y1 = 3*(x1) + 2*(x2);
005 y2 = x1 / x2;
006 new_variable_from_x1_and_x2 = x1 + x2 - 37;
007 run;
```

Invalid data set name
Does not specify the file location and filename should be quoted
Missing ;
Missing *

Corrected program:

```
data newdata;
infile 'c:\prob4data.txt';
input x1 x2;
y1 = 3*x1 + 2*x2;
y2 = x1 / x2;
new_variable_from_x1_and_x2 = x1 + x2 - 37;
run;
```
Chapter 3

2.

data Vote;
   /* Read a CSV file */
   infile 'c:\Users\Yuen\Documents\6250\Homework\HW1\political.csv' dsd;
   input state $ Party $ Age;
run;

title "Listing of Vote data set";

/* compute frequencies for Party */
proc freq data=Vote;
   tables Party;
run;

proc print data=Vote;
run;

Listing of Vote data set
14:40 Wednesday, April 8, 2009

The FREQ Procedure

<table>
<thead>
<tr>
<th>Party</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dem</td>
<td>2</td>
<td>40.00</td>
<td>2</td>
<td>40.00</td>
</tr>
<tr>
<td>Ind</td>
<td>1</td>
<td>20.00</td>
<td>3</td>
<td>60.00</td>
</tr>
<tr>
<td>Rep</td>
<td>2</td>
<td>40.00</td>
<td>5</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Listing of Vote data set
23:44 Wednesday, April 8, 2009

<table>
<thead>
<tr>
<th>Obs</th>
<th>state</th>
<th>Party</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NJ</td>
<td>Ind</td>
<td>55</td>
</tr>
<tr>
<td>2</td>
<td>CO</td>
<td>Dem</td>
<td>45</td>
</tr>
<tr>
<td>3</td>
<td>NY</td>
<td>Rep</td>
<td>23</td>
</tr>
<tr>
<td>4</td>
<td>FL</td>
<td>Dem</td>
<td>66</td>
</tr>
<tr>
<td>5</td>
<td>NJ</td>
<td>Rep</td>
<td>34</td>
</tr>
</tbody>
</table>
4.

```sas
/* Using a FILENAME statement to identify an external file */
filename datafile 'c:\Users\Yuen\Documents\6250\Homework\HW1\political.csv';
data Vote;
   infile datafile dsd;
   input state $ Party $ Age;
run;

title "Listing of Vote data set";

/* compute frequencies for Party */
proc freq data=Vote;
   tables Party;
run;

proc print data=Vote;
run;
```

---

**Listing of Vote data set**

14:40 Wednesday, April 8, 2009

<table>
<thead>
<tr>
<th>Party</th>
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<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
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</thead>
<tbody>
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<td>40.00</td>
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<td>40.00</td>
</tr>
<tr>
<td>Ind</td>
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<td>20.00</td>
<td>3</td>
<td>60.00</td>
</tr>
<tr>
<td>Rep</td>
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<td>40.00</td>
<td>5</td>
<td>100.00</td>
</tr>
</tbody>
</table>

---

**Listing of Vote data set**

23:44 Wednesday, April 8, 2009

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<th>state</th>
<th>Party</th>
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</tr>
<tr>
<td>2</td>
<td>CO</td>
<td>Dem</td>
<td>45</td>
</tr>
<tr>
<td>3</td>
<td>NY</td>
<td>Rep</td>
<td>23</td>
</tr>
<tr>
<td>4</td>
<td>FL</td>
<td>Dem</td>
<td>66</td>
</tr>
<tr>
<td>5</td>
<td>NJ</td>
<td>Rep</td>
<td>34</td>
</tr>
</tbody>
</table>
6.  

* Use column input to specify the location of each value. */

data bank;
infile 'c:\Users\Yuen\Documents\6250\Homework\HW1\bankdata.txt';
input Name $ 1-15
      Account $ 16-20
      Balance 21-26
      Rate 27-30;
Interest = Balance * Rate;
run;

title "Listing of Data Set Bank";
proc print data=bank;
run;

Listing of Data Set Bank 00:30 Thursday, April 9, 2009 1

<table>
<thead>
<tr>
<th>Obs</th>
<th>Name</th>
<th>Account</th>
<th>Balance</th>
<th>Rate</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Philip Jones</td>
<td>V1234</td>
<td>432</td>
<td>2.32</td>
<td>1002.24</td>
</tr>
<tr>
<td>2</td>
<td>Nathan Philips</td>
<td>V1399</td>
<td>1520</td>
<td>2.45</td>
<td>3724.00</td>
</tr>
<tr>
<td>3</td>
<td>Shu Lu</td>
<td>W8892</td>
<td>45123</td>
<td>3.45</td>
<td>155674.35</td>
</tr>
<tr>
<td>4</td>
<td>Betty Boop</td>
<td>V7677</td>
<td>5000</td>
<td>2.78</td>
<td>13900.00</td>
</tr>
</tbody>
</table>

8.  

/* Using formatted input to read the data values */

data bank;
infile 'c:\Users\Yuen\Documents\6250\Homework\HW1\bankdata.txt';
input @1 Name $15.
      @16 Account $5.
      @21 Balance 6.
      @27 Rate 4.;
Interest = Balance * Rate;
run;

title "Listing of Data Set Bank";
proc print data=bank;
    format Balance dollar11.
            Interest dollar11.2;
run;