Chapter 1

2. In the following list, classify each data set name as valid or invalid:

<table>
<thead>
<tr>
<th>Name</th>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic</td>
<td>valid</td>
</tr>
<tr>
<td>clinic</td>
<td>valid</td>
</tr>
<tr>
<td>Work</td>
<td>valid</td>
</tr>
<tr>
<td>hyphens-in-the-name</td>
<td>invalid</td>
</tr>
<tr>
<td>123GO</td>
<td>invalid</td>
</tr>
<tr>
<td>Demographics_2006</td>
<td>valid</td>
</tr>
</tbody>
</table>

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;
```
Listing of PROB2

<table>
<thead>
<tr>
<th>Obs</th>
<th>ID</th>
<th>Height</th>
<th>Weight</th>
<th>SBP</th>
<th>DBP</th>
<th>WtKg</th>
<th>HtCm</th>
<th>AveBP</th>
<th>Polynomial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>001</td>
<td>68</td>
<td>150</td>
<td>110</td>
<td>70</td>
<td>68.182</td>
<td>172.72</td>
<td>83.333</td>
<td>7788590.36</td>
</tr>
<tr>
<td>2</td>
<td>002</td>
<td>73</td>
<td>240</td>
<td>150</td>
<td>90</td>
<td>109.091</td>
<td>185.42</td>
<td>110.000</td>
<td>9631030.87</td>
</tr>
<tr>
<td>3</td>
<td>003</td>
<td>62</td>
<td>101</td>
<td>120</td>
<td>80</td>
<td>45.909</td>
<td>157.48</td>
<td>93.333</td>
<td>5907844.18</td>
</tr>
</tbody>
</table>

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;
```

<table>
<thead>
<tr>
<th>Obs</th>
<th>x1</th>
<th>x2</th>
<th>y1</th>
<th>y2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>12</td>
<td>0.83333</td>
<td>-15</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>15</td>
<td>0.60000</td>
<td>-13</td>
</tr>
</tbody>
</table>

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;
```