STAT 330/530
Statistical Computing with SAS
California Polytechnic State University, San Luis Obispo
Lab 1

Some of these problems may be more challenging than others. Please feel free to work with others or speak with me if you need help.

It should all be done in one script, but feel free to use as many DATA and PROC steps as you like along the way. Be sure to comment your code.

Planning For Your Child's Future!

Planning for your child's future can be stressful and expensive. The text file 'kidsbday.txt' contains simple information on children and their birth dates. We will investigate how much parents should save starting **TODAY** if they want to have enough for a used car when the child turns 16, and a public 4-year college when the child turns 18?

The variables in this file are:

- Child name

- Birth date

For each child:

1. Use SAS functions to create two variables that represent the number of *years* from **today** until the child is 16 and 18 years old, respectively. *(Hint: It may be helpful to do this in two steps: (1) Calculate the date at which the child turns 16/18, then (2) calculate the years from **today** until that happens.)*

2. Calculate the total value of two types of investments:

   - A car investment for when the child turns 16:

     For this, the parents have an initial investment of $600 TODAY earning a modest 2% interest (annually) until the child turns 16. In addition, incorporate contributions of $600 per year.

   - A college investment for when the child turns 18:

     For this, the parents have an initial investment of $12,000 TODAY earning a modest 3% interest (annually) until the child turns 18. In addition, incorporate contributions of $10,000 per year.

   For these calculations, you can use the formula $X = B(1+i)^n + A\dfrac{(1+i)^n - 1}{i}$, where

   X = the amount at the end of n years
   B = the initial investment

n = the number of years

i = the interest rate

A = the annual contribution

3. Create two SAS variables indicating if the parents will have saved the target amounts of $10,000 for a car by the age of 16 and $100,000 for college by the age of 18. Each of these variables should take a value of "Good News" if the savings goals are met, and "Bad News" otherwise.

4. Print the results with the name of the child, the number of years until they turn 16, the number of years until they turn 18, their car savings at the age of 16, their college savings at the age of 18, and whether or not the have good news or bad news for their car and college savings account.