In this activity, you will practice some basic R data preparation tasks on a data set that contains life expectancy, population, and gdp for several countries over many years. There are three data sets that you'll be using, each of which is stored as a .csv and be downloaded above and then read into R as a data frame. Here is a description of each data set.

ccA: life expectancy and population values for various countries in Europe and Asia over the course of several years
ccB: same data as ccA, but for Africa, the Americas and Oceania
gdp: gdp per capita for various countries and years

Perform the following tasks and upload your progress in a .R or .Rmd file at the end of class to show your progress.

1. Create a directory for your work and create an R project titled 'lecture3-inclass'. Also create a subdirectory called 'data' to store the downloaded data.

2. Read the data into your workspace.

3. Use the `str()` command to examine the characteristics of each of the four databases.

4. Append `ccA` to `ccB` to make one large data frame. Reexamine the output with `str()`.

5. Append the `gdp` data to the data frame you created in Task 4. Be careful here and make sure you examine the structure of the resulting data frame to ensure things are correct. Examine the output with `str()`.

6. What variable type is the country variable in both your appended and coordinates data frames?

7. How many times after 1980 did a country have gdp<20000. To do this, consider subsetting to create a new data frame and counting the number of rows.

8. Returning to the original data set from Task 5, create a new data set that, for each year, lists the median gdp and also identifies the country whose gdp is nearest to the median. You should use the technique we reviewed in class to build a data frame within a loop. Below is some pseudo-code to get you started. I also believe the functions `unique()` and `which()` will be helpful.

```
create empty results data frame
loop through all years
       -create a subset of the data of interest
       -calculate the median gdp
       -find the index of country nearest to the median
       -use the index to find the country name, continent, and actual gdp
        store the results in a temp data frame
       -concatenate the results df with the temp df
```

9. Repeat Task 8, but for each year, calculate separate results for each continent.