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* Programmed by Charles Hwang *
* Coded in SAS OnDemand       *
* Thursday, January 31, 2019  *
* Course: STAT 303            *
* Title: Homework 1           *;

/* Problem 1 */
/* 1a */ Data Weather;
Input @1 Month$ 9. @11 Temp 4. @16 WindSpeed 2.;
Datalines ;
December  3.9  10
January   -3.9 9
February  -1.1 10
March     6.1  9
;

Data work.WeatherNew; /* Creating new variables for Temperature (Fahrenheit) and wind chill */
Set Weather;
TempF=Temp*9/5+32;
TempF=round(TempF,.1);
WindChill=35.74+.6215*TempF-35.75*WindSpeed**.16+.4275*TempF*WindSpeed**.16;
WindChill=round(WindChill,.1);

/* 1b */ Proc Sort data=WeatherNew;
by descending WindChill;
Proc Print data=WeatherNew;
Run;

/* Problem 2 */
/* 2a */ Data countriesGDP;
Infile "/home/chwang10/sasuser.v94/countriesGDP.txt" dlm=";";
Length Country Continent$ 14;
Input Country$ Continent$ Area Population GDP;
Data work.countriesGDPNew; /* Creating new variable for GDP per capita */
Set countriesGDP;
GDPpC=GDP/Population;
GDPpC=round(GDPpC,.01);

/* 2b */ Proc Sort data=countriesGDPNew;
by Continent;
Proc Print data=countriesGDPNew;
ID Continent;
Var Country GDPpC;

/* 2c */ Proc Means data=countriesGDPNew mean;
By Continent;
Var GDPpC;
* The five countries in Europe have the highest mean GDP per capita, followed by the
five countries in North America, Asia, South America, and Africa. There is high variance
in the five continents, with the mean GDP per capita of the European countries being
almost four times as much as the mean GDP per capita of the African countries. ;

/* 2d */
Proc Sort data=countriesGDPNew;
By Descending GDPpC;
Proc Print data=countriesGDPNew noobs;
Title Countries with GDP per Capita at or above the 75th percentile;
Where GDPpC ge 36470;
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Proc Print data=countriesGDPNew noobs;
Title Countries with GDP per Capita between the 25th and 75th percentiles;
Where GDPpC gt 13160 & GDPpC lt 36470;
Proc Print data=countriesGDPNew noobs;
Title Countries with GDP per Capita at or below the 25th percentile;
Where GDPpC le 13160;

/* 2e */ Data AsiaGDP;
set countriesGDPNew;
Where Continent="Asia";
Proc Print data=AsiaGDP;
Title GDP of Countries in Asia;
ID Continent;
Var Country Area GDPpC;
Run;
```