```
% ViableDonorsMain.m
% Patrick Utz, 4/23/18, 11.1
% Variables: candData = inputted candidate data; tempX = temporary arrays
% used for indexing through cell arrays; viable = viable donors

clear

candData = readinfo('donorcandidates.dat');
h = 1;
for k = 1:length(candData)
   temp = candData{k};
   if (str2double(temp{5}) >= 90 && str2double(temp{5}) <= 119) && ...
      (str2double(temp{6}) >= 60 && str2double(temp{6}) <= 79)
      viable{h} = temp;
      h = h+1;
   end
end
writetable(viable,'viabledonors.dat')
type('donorcandidates.dat')
type('viabledonors.dat')
```

```
% readinfo.m
% Patrick Utz, 4/23/18, 11.1
% Variables: all labeled

function candidatesData = readinfo(fileName)
% readinfo takes one input argument, i.e., the file name where donor
% candidates? information is stored, and reads the information from it,
% stores all the information in a single variable, and returns that
% variable as the only output argument.
% Format of call: readinfo( file name )
% Returns variable containing all the candidates' info

fid = fopen(fileName,'r');
if fid == -1
   disp('File open not successful: donorcandidates.dat')
else
   disp('File opened successfully: donorcandidates.dat')
```

```
   k = 1;
   while feof(fid) == 0
      aline = fgetl(fid);
      [first     next0] = strtok(aline);
      [last      next1] = strtok(next0);
      [type      next2] = strtok(next1);
      [rh        next3] = strtok(next2);
      [systolic  next4] = strtok(next3);
      [diastolic      ] = strtok(next4);
      candidatesData{k} = {first last type rh systolic diastolic};
      k = k+1;
   end

   closeresult = fclose(fid);
   if closeresult == 0
      disp('File closed successfully: donorcandidates.dat')
   else
      disp('File close not successful: donorcandidates.dat')
   end
end
```

```
% writetable.m
% Patrick Utz, 4/23/18, 11.1
% Variables: tempX = used for indexing;

function writetable(variable,fileName)
% writetable takes two input arguments, the first one is the variable
% name where the viable donors? information are stored, and the second
% one is a filename of the text file where the viable donor?s information
% is stored.
% Format of call: writetable( variable name, file name  )
% Stores the viable donor?s information in a text file
first = "First Name";
last  = "Last Name";
type  = "Bloodtype";
rh    = "RH";
sys   = "Systolic";
dia   = "Diastolic";
fid1 = fopen(fileName,'w');
```

```
if fid1 == -1
   disp('File open not successful: viabledonors.dat')
else
   disp('File opened successfully: viabledonors.dat')
%     title = 'First name  Last name  Bloodtype RH Systolic Diastolic';
   fprintf(fid1,'%s \t\t%s \t%s \t%s \t%s \t%s \n', first, last, type, rh, sys, dia);
   for i = 1:length(variable)
      temp1 = variable{1,i};
      fprintf(fid1,'%-s   \t\t%-s \t\t\t%+s \t%s \t      %d \t\t%d \n', temp1{1,1}, temp1{1,2}, ...
      temp1{1,3}, temp1{1,4}, str2double(temp1{1,5}), ...
      str2double(temp1{1,6}));
   end

   closeresult1 = fclose(fid1);
   if closeresult1 == 0
      disp('File closed successfully: viabledonors.dat')
   else
      disp('File close not successful: viabledonors.dat')
   end
end
```

```
>> ViableDonorsMain
File opened successfully: donorcandidates.dat
File closed successfully: donorcandidates.dat
File opened successfully: viabledonors.dat
File closed successfully: viabledonors.dat
```

```
Darby Geroge A + 95 65
Helen Dee B - 87 60
Giovanni Lupa AB - 112 78
Cat Donovan O + 120 80
```

First Name	Last Name	Bloodtype	RH	Systolic	Diastolic
Darby	Geroge	A	+	95	65
Giovanni	Lupa	AB	-	112	78