Lab04 - Assignment

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Assignment Description

Population.mat file consists of countries and their populations in every 5 year since 1960. It has 3 tables;

1. PopulationTotal has total pupulations.
2. PopulationFemale has female populations.
3. PopulationMale has male populations.

Your tasks is to do followings;

Task 1: Plot a grouped bar graph that shows total populations from 1960 to 2015 for 4 countries that you picked.

Task 2: For each country that you picked, plot a figure that contains 4 pie charts which show female and male population distributions in 1970, 1985, 2000 and 2015. Each pie chart must show female and male population rate. You may need to use **tiledlayout** command.

Load Data

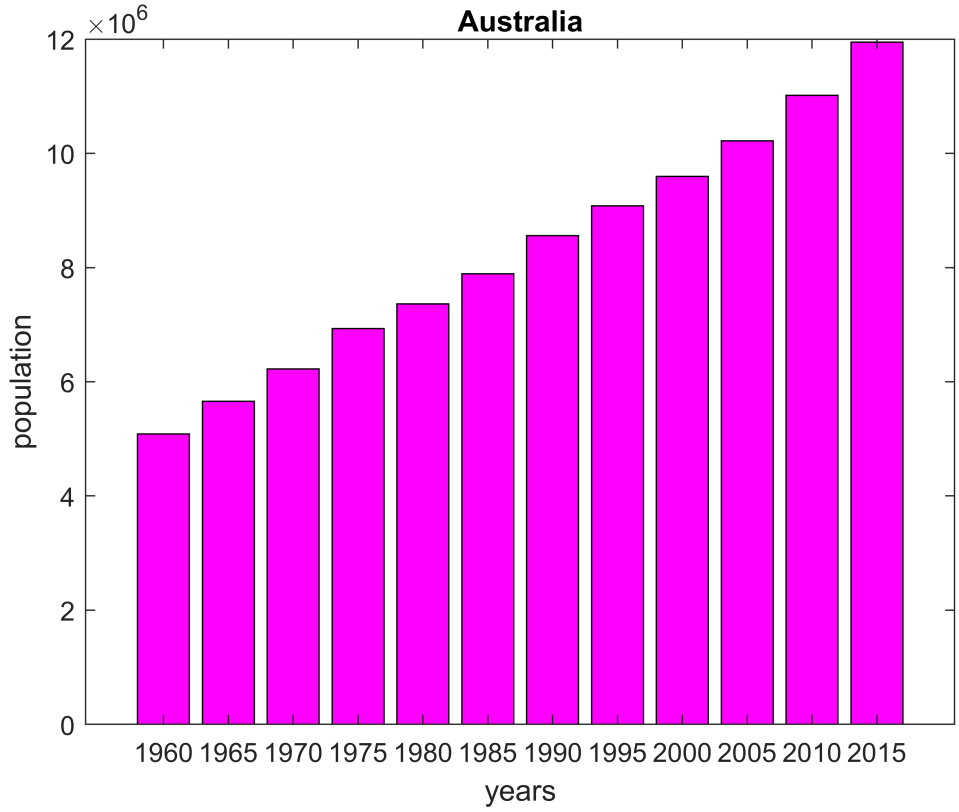
```
clear
clc
load Populations.mat
```

Task 1 - BAR GRAPH

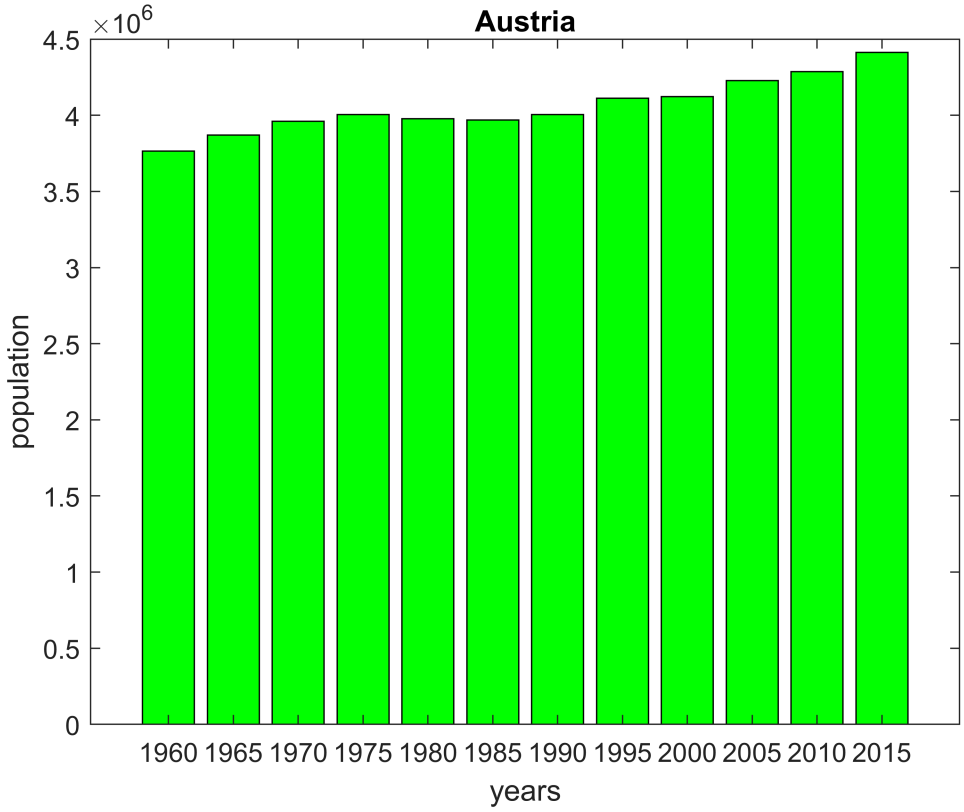
Selected Countries:

1. Australia
2. Austria
3. Azerbaijan
4. Burundi

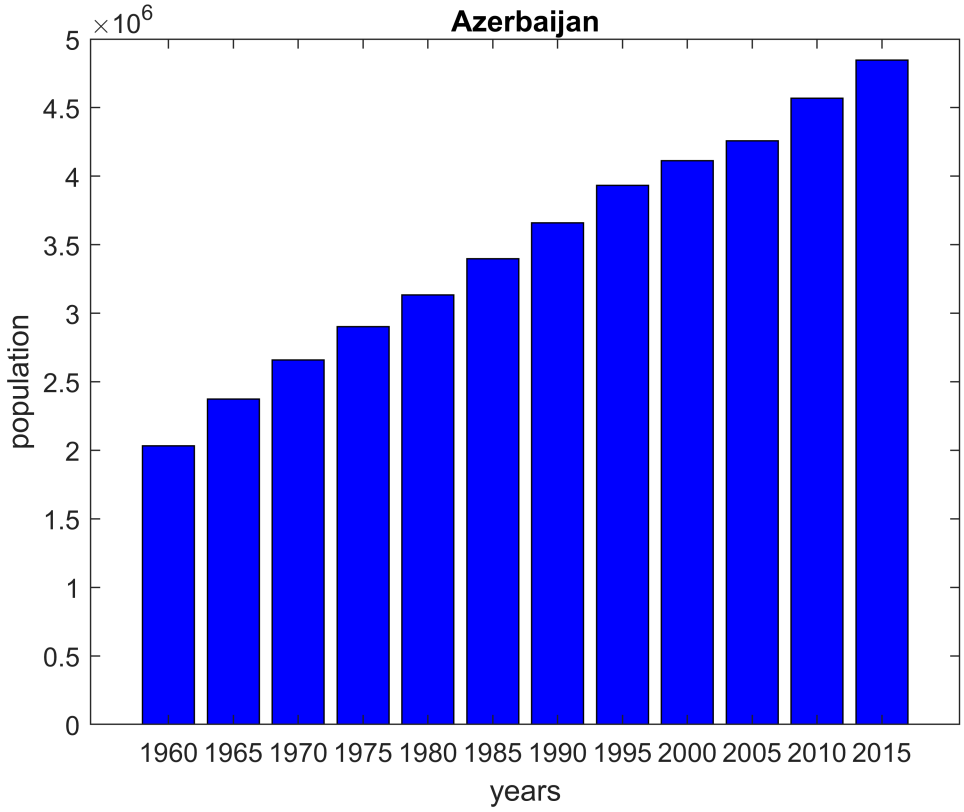
```
years = 1960:5:2015;
australia = table2array(PopulationsFemale(9,4:15));
austria = table2array(PopulationsFemale(10,4:15));
azerbaijan = table2array(PopulationsFemale(11,4:15));
burundi = table2array(PopulationsFemale(12,4:15));

bar(years,australia,"m")
title("Australia")
xlabel("years")
ylabel("population")
```



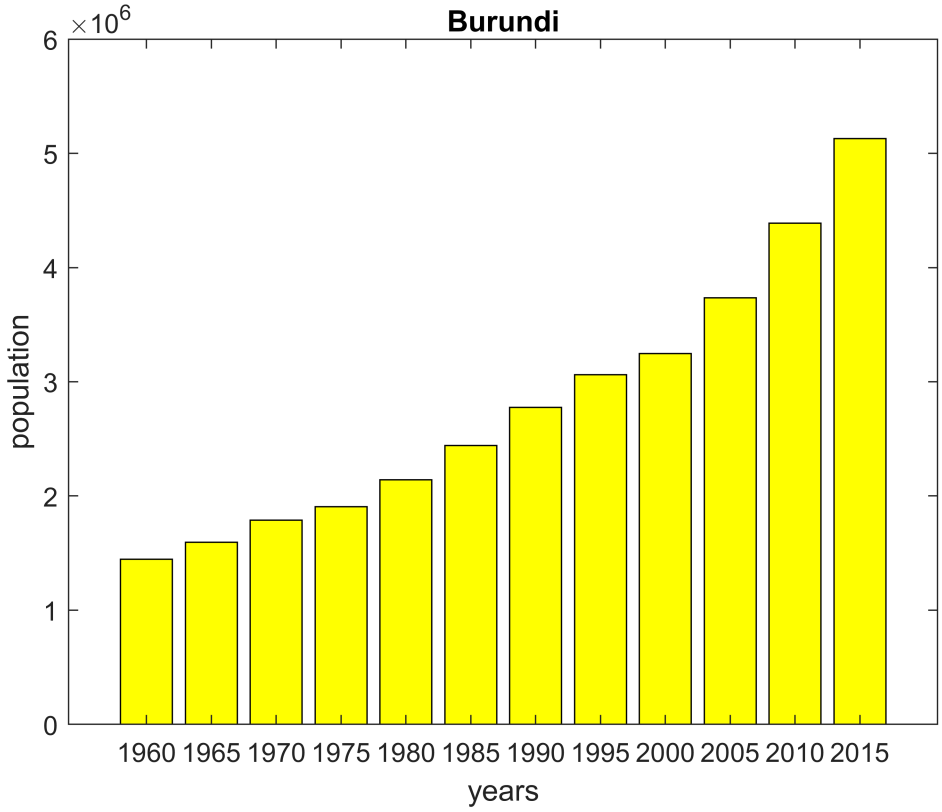

```
bar(years,austria,"g")
title("Austria")
xlabel("years")
ylabel("population")
```




```
bar(years,azerbaijan,"b")
title("Azerbaijan")
xlabel("years")
ylabel("population")
```




```
bar(years,burundi,"y")
title("Burundi")
xlabel("years")
ylabel("population")
```



Task 2 - PIE CHART

Each country should have it's own figure. You must split each figure to 4 (2 by 2) by using **tiledlayout** command.

```
%Australia
Australia1970 = [table2array(PopulationsFemale(9,6)) table2array(PopulationsMale(9,6)) ];
Australia1985 = [table2array(PopulationsFemale(9,9)) table2array(PopulationsMale(9,9)) ];
Australia2000 = [table2array(PopulationsFemale(9,12)) table2array(PopulationsMale(9,12)) ];
Australia2015 = [table2array(PopulationsFemale(9,15)) table2array(PopulationsMale(9,15)) ];
labels = {'Female','Male'};
t = tiledlayout(2,2)
```

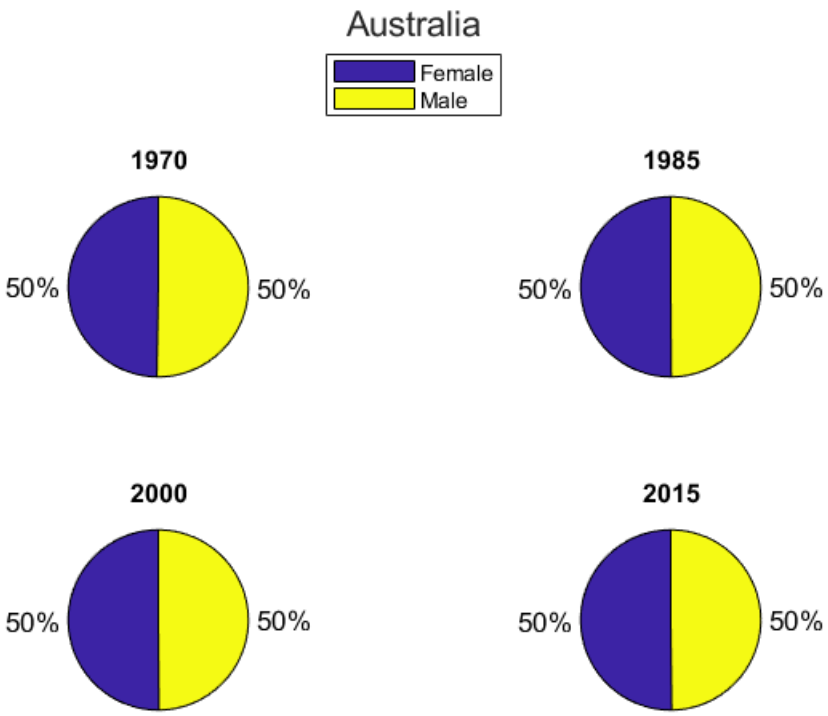
```
t =
  TiledChartLayout with properties:

    TileArrangement: 'fixed'
           GridSize: [2 2]
            Padding: 'normal'
        TileSpacing: 'normal'

  Show all properties
```

```
t.Title.String = 'Australia';

Australia1 = nexttile;
pie(Australia1,Australia1970)
title('1970')
Australia2 = nexttile;
```

```
pie(Australia2,Australia1985)
title('1985')
Australia3 = nexttile;
pie(Australia3,Australia2000)
title('2000')
Australia4 = nexttile;
pie(Australia4,Australia2015)
title('2015')

lgndAustralia = legend(labels);
lgndAustralia.Layout.Tile = 'north'
```

```
lgndAustralia =
  Legend (Female, Male) with properties:

         String: {'Female'  'Male'}
       Location: 'layout'
    Orientation: 'vertical'
       FontSize: 8.1000
       Position: [0.4391 0.8374 0.1568 0.0755]
          Units: 'normalized'

  Show all properties
```

```
%Austria
Austria1970 = [table2array(PopulationsFemale(10,6)) table2array(PopulationsMale(10,6)) ];
Austria1985 = [table2array(PopulationsFemale(10,9)) table2array(PopulationsMale(10,9)) ];
Austria2000 = [table2array(PopulationsFemale(10,12)) table2array(PopulationsMale(10,12)) ];
Austria2015 = [table2array(PopulationsFemale(10,15)) table2array(PopulationsMale(10,15)) ];
labels = {'Female','Male'};
t = tiledlayout(2,2)
```



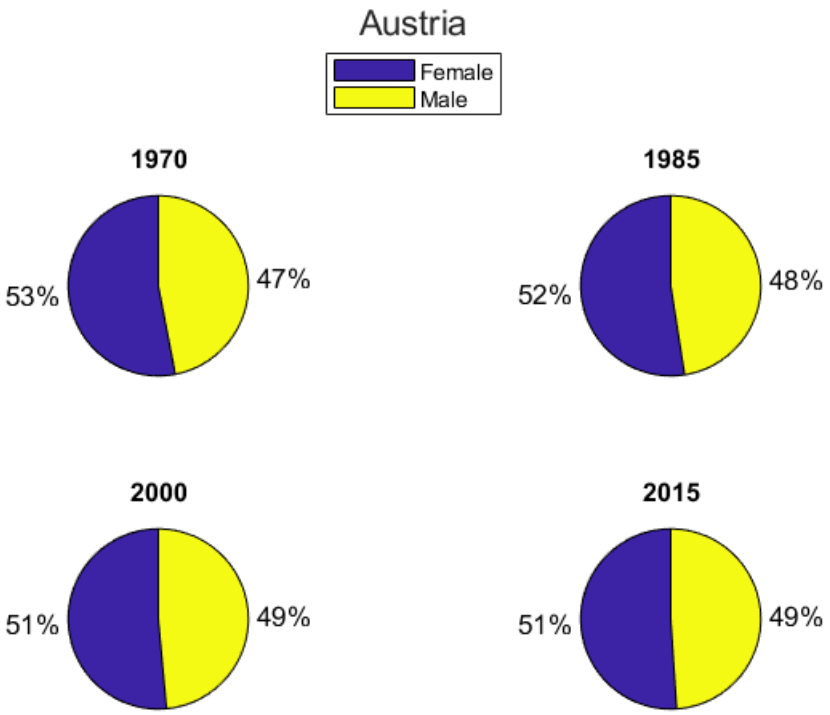

```
t =
  TiledChartLayout with properties:

    TileArrangement: 'fixed'
           GridSize: [2 2]
            Padding: 'normal'
        TileSpacing: 'normal'

  Show all properties
```

```
t.Title.String = 'Austria';

Austria1 = nexttile;
pie(Austria1,Austria1970)
title('1970')
Austria2 = nexttile;
pie(Austria2,Austria1985)
title('1985')
Austria3 = nexttile;
pie(Austria3,Austria2000)
title('2000')
Austria4 = nexttile;
pie(Austria4,Austria2015)
title('2015')

lgndAustria = legend(labels);
lgndAustria.Layout.Tile = 'north'
```

```
lgndAustria =
  Legend (Female, Male) with properties:
```

```
          String: {'Female'  'Male'}
        Location: 'layout'
     Orientation: 'vertical'
        FontSize: 8.1000
        Position: [0.4391 0.8374 0.1568 0.0755]
           Units: 'normalized'

  Show all properties
```

```
%Azerbaijan
Azerbaijan1970 = [table2array(PopulationsFemale(11,6)) table2array(PopulationsMale(11,6)) ];
Azerbaijan1985 = [table2array(PopulationsFemale(11,9)) table2array(PopulationsMale(11,9)) ];
Azerbaijan2000 = [table2array(PopulationsFemale(11,12)) table2array(PopulationsMale(11,12)) ];
Azerbaijan2015 = [table2array(PopulationsFemale(11,15)) table2array(PopulationsMale(11,15)) ];
labels = {'Female','Male'};
t = tiledlayout(2,2)
```



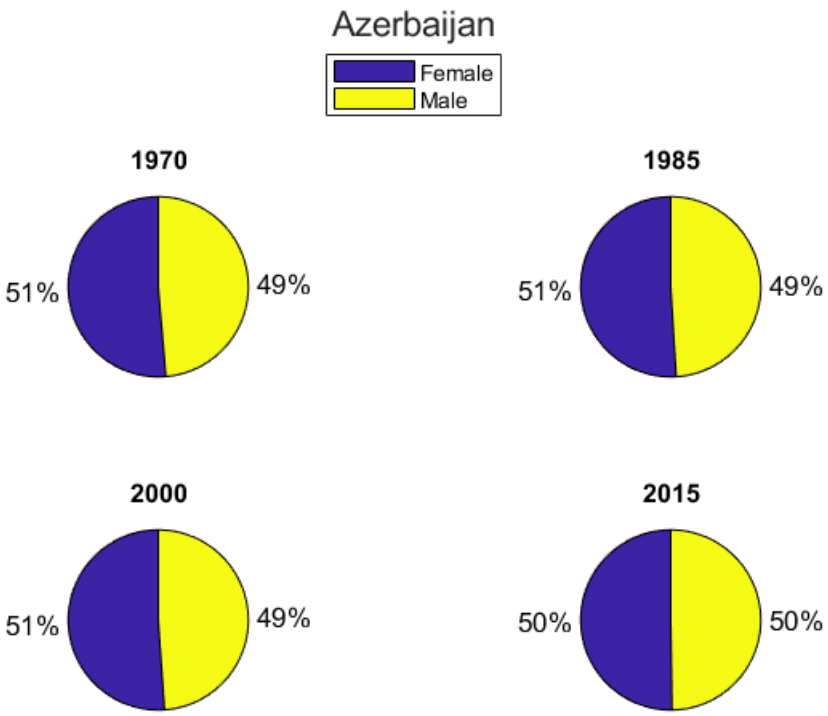

```
t =
  TiledChartLayout with properties:

    TileArrangement: 'fixed'
           GridSize: [2 2]
            Padding: 'normal'
        TileSpacing: 'normal'

  Show all properties
```

```
t.Title.String = 'Azerbaijan';

Azerbaijan1 = nexttile;
pie(Azerbaijan1,Azerbaijan1970)
```

```
title('1970')
Azerbaijan2 = nexttile;
pie(Azerbaijan2,Azerbaijan1985)
title('1985')
Azerbaijan3 = nexttile;
pie(Azerbaijan3,Azerbaijan2000)
title('2000')
Azerbaijan4 = nexttile;
pie(Azerbaijan4,Azerbaijan2015)
title('2015')

lgndAzerbaijan = legend(labels);
lgndAzerbaijan.Layout.Tile = 'north'
```

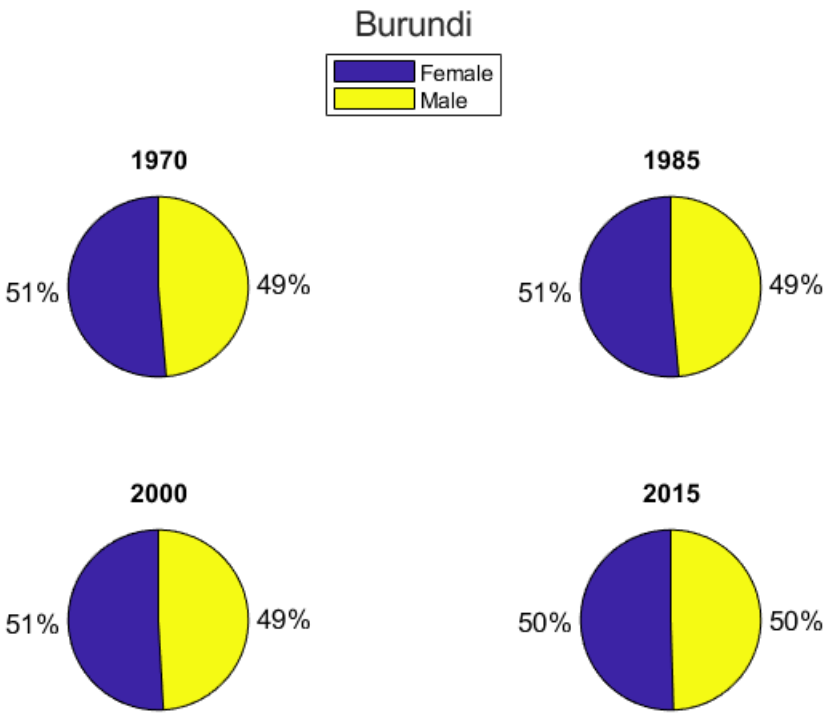
```
lgndAzerbaijan =
  Legend (Female, Male) with properties:

         String: {'Female'  'Male'}
       Location: 'layout'
    Orientation: 'vertical'
       FontSize: 8.1000
       Position: [0.4391 0.8374 0.1568 0.0755]
          Units: 'normalized'

  Show all properties
```

```
%Burundi
Burundi1970 = [table2array(PopulationsFemale(12,6)) table2array(PopulationsMale(12,6)) ];
Burundi1985 = [table2array(PopulationsFemale(12,9)) table2array(PopulationsMale(12,9)) ];
Burundi2000 = [table2array(PopulationsFemale(12,12)) table2array(PopulationsMale(12,12)) ];
Burundi2015 = [table2array(PopulationsFemale(12,15)) table2array(PopulationsMale(12,15)) ];
labels = {'Female','Male'};
t = tiledlayout(2,2)
```




```
t =
  TiledChartLayout with properties:

    TileArrangement: 'fixed'
           GridSize: [2 2]
            Padding: 'normal'
        TileSpacing: 'normal'

  Show all properties
```

```
t.Title.String = 'Burundi';

Burundi1 = nexttile;
pie(Burundi1,Burundi1970)
title('1970')
Burundi2 = nexttile;
pie(Burundi2,Burundi1985)
title('1985')
Burundi3 = nexttile;
pie(Burundi3,Burundi2000)
title('2000')
Burundi4 = nexttile;
pie(Burundi4,Burundi2015)
title('2015')

lgndBurundi = legend(labels);
lgndBurundi.Layout.Tile = 'north'
```




```
lgndBurundi =
  Legend (Female, Male) with properties:

         String: {'Female'  'Male'}
       Location: 'layout'
    Orientation: 'vertical'
       FontSize: 8.1000
       Position: [0.4391 0.8374 0.1568 0.0755]
          Units: 'normalized'

  Show all properties
```

Finally, export this file as pdf by clicking Save->Export to PDF