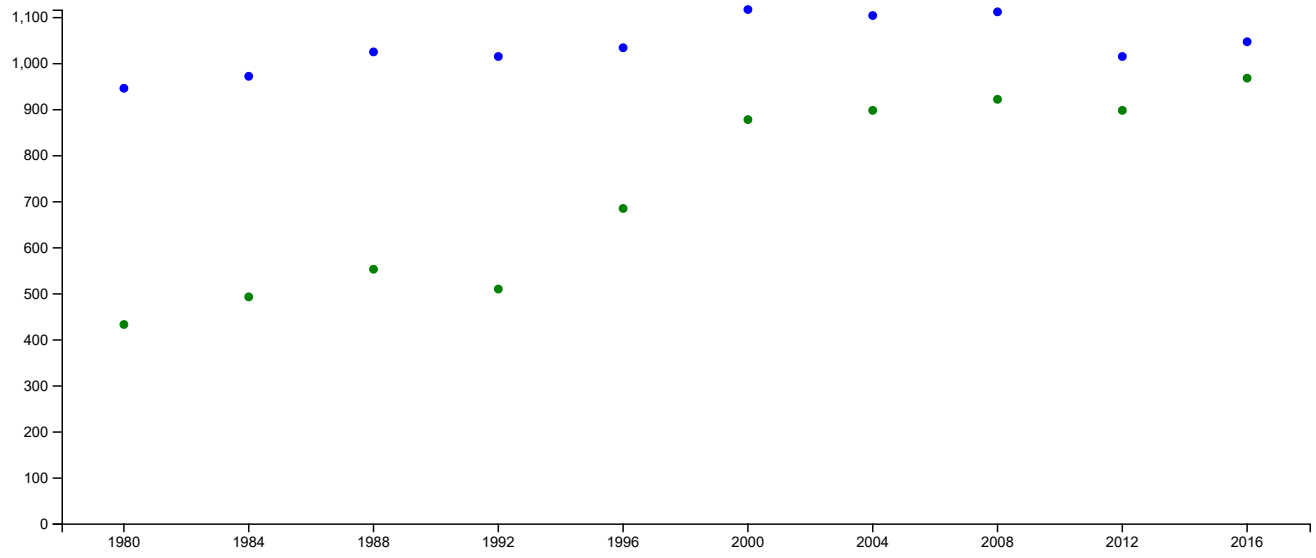
Assignment 6

In the last assignment you devised a strategy using plots to find a perfect team of pokemons based on the plots. In this assignment we will make the plots answer our questions for us. We will be using scales and axes extensively in this assignment. We have provided you with a dataset along with the assignment files. You will create visualizations based on questions to answer the problems.
You recently moved to Mars. You are a part of a team that is responsible for setting up a new civilization there. You have been assigned the responsibility of creating a sporting event that will unite the population of Mars. You decide to take inspiration from the 500 years old event from Earth - Olympics. But the Olympics did not start with all the sports that it has today, and you need to follow a similar pattern to select games that will be played at the first edition of the Olympics on mars.
You are supposed to present an analysis to your team on how the Olympics on Mars can be an improved version of the Olympics on Earth. For this, we will create a visualization in every question given below that will help us create a presentation for a better olympics.

Question 1:

Problem Statement:The goal of the Olympic Movement is to contribute to building a peaceful and better world by educating youth through sport practiced without discrimination of any kind and in the Olympic spirit. Now you have all the data from the last 40 years of Olympics and you need to represent one of the major issues the Olympics has faced in these 40 years - gender bias. You want the olympics on mars to be a sport where all genders participate equally. For this you will create a scatter plot in the div(id="q1_plot") to show female and male participation in Summer Olympics after the year 1980 (>=1980). Provide appropriate scale and axes to the plot. Do NOT hard code the scale/axes. Associate different colors for male and female data points. For more details refer to expected_output.pdf.

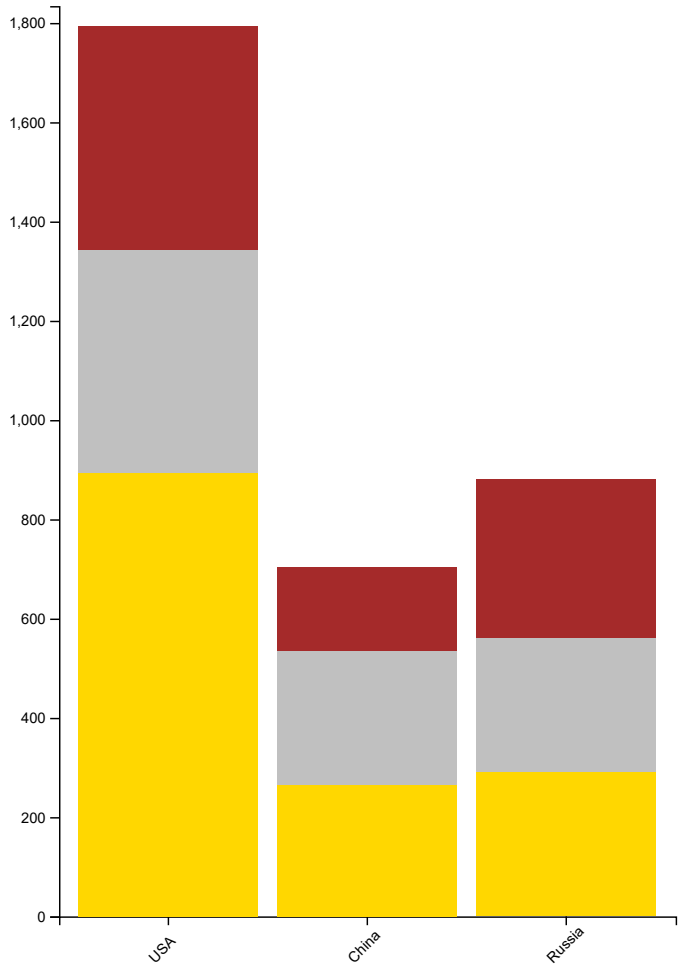
Plot:



Question 2:

Problem Statement:Our next goal is to equal the playing field, our current population on Mars consists of people from the USA, China and Russia. We want to create our own teams, all of which have an equal number of good players. In order to convince the council, we will plot a stacked bar plot for the USA, China and Russia to visualize their medal tally after the year 1990 (>1990). Provide appropriate scale and axes to the plot. Do NOT hard code the scale/axes. Associate Yellow, Gray and Bronze colors for gold, silver, and bronze medals respectively. For more details refer to expected_output.pdf.

Plot:



Question 3:

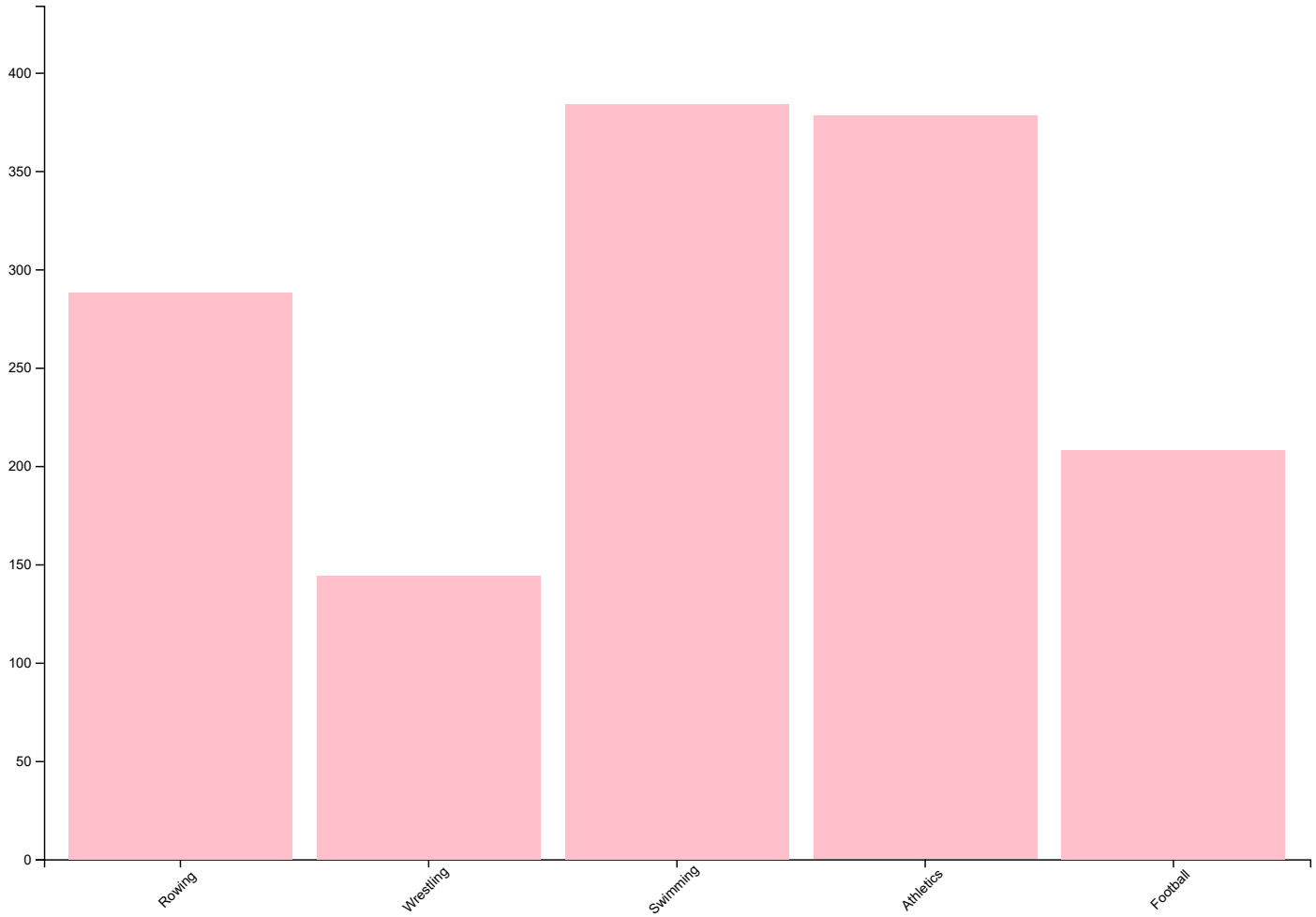
Problem Statement:One very popular sport among the population present on Mars is Basketball. We need to provide an analysis on the weight and height distribution of male and female basketball players in Olympics present on earth as a reference. There is a nice correlation between height and weight. Create a scatter plot to show the relationship between height and weight for Basketball. Now let us see if this correlation is dependent on gender. Make use of two shades of a color to represent male and female athletes. Example : If you decided to represent basketball with red, plot the data points corresponding to female athletes with red and male athletes with pink. Provide appropriate scale and axes to the plot. Do NOT hard code the scale/axes.

Plot:

Question 4:

Problem Statement:Lastly we want to find the top 3 sports that recorded the highest number of participation after the year 2010 (>2010). The council of establishing this event has shortlisted the following events - Rowing, Wrestling, Swimming, Football and Athletics. To do so, we will draw a bar plot to display the number of participants in these sports after the year 2010. Provide appropriate scale and axes to the plot. Do NOT hard code the scale/axes. For more details refer to expected_output.pdf.

Plot:


400
350
300
250
200
150
100
50
0
Rowing
Wrestling
Swimming
Athletics
Football