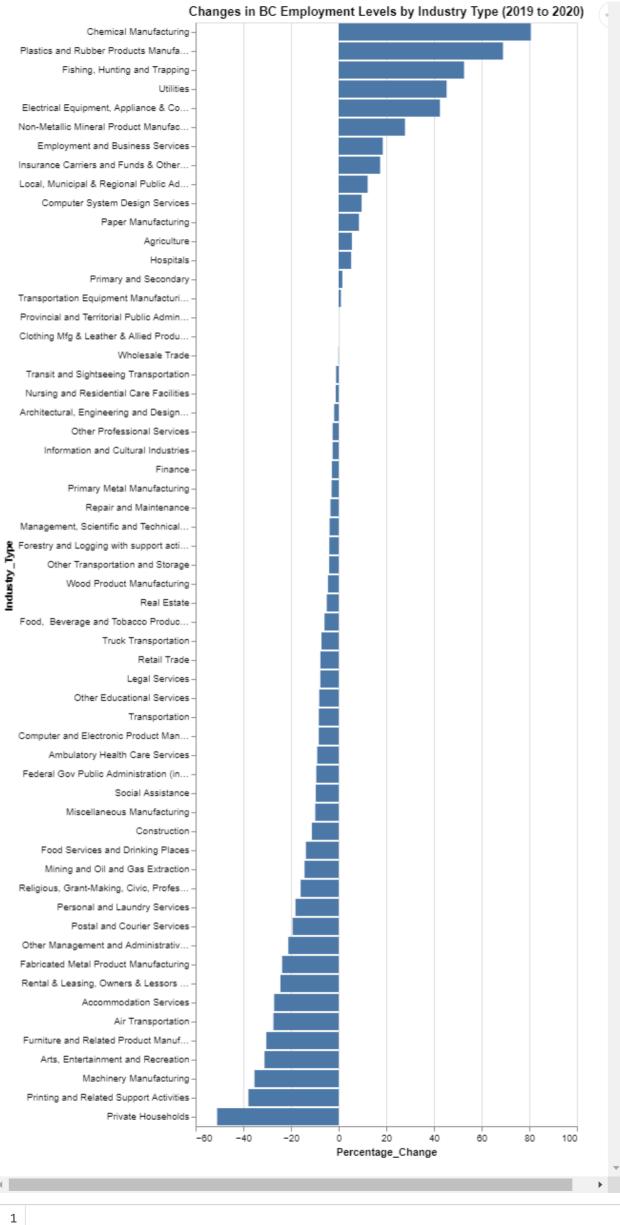
```
1 import pandas as pd
In [15]:
           2 import altair as alt
           3
           4 #BC EmpLoyment Data
           5 #https://www2.gov.bc.cg/assets/gov/data/statistics/employment-labour-market/Lfs employment and unemployment rate by industry and development region.xls
           7 #1.import xls
           8 #2.set row with years as header
           9 #3.extract columns 0, '2019', and '2020
          10 #4. rename columns
          11 #5.extract specific rows
          12 bc employment changes = pd.read excel('BC Employment 2019-2020 Changes.xls', sheet name='BC', header=2, usecols=[0.49.51]).rename(columns = {
                          'Note: figures of less than 1.5 (1,500 persons) suppressed': 'Industry Type', '2019': '2019 Employment', '2020': '2020 Employment'})
          13
             subsector drill down = bc employment changes.loc[[4.6.7.8.9.10.12.14.15.16.17.19.20.21.22.23.24.25.26.27.28.29.34.35.37.38.39.40.41.42.44.
          15
                                                                45,46,47,49,50,51,52,53,55,56,58,59,61,62,63,64,66,67,69,70,72,73,74,75,
          16
                                                                77,78,7911
          17
          18 #7.Create "employment delta" column to show job losses and gains between 2019 and 2020.
             employment delta = subsector drill down.assign(Thousands of Jobs =
          20
                                                             (-1*(subsector drill down['2019 Employment'] - subsector drill down['2020 Employment'])))
          21
          22 #8.Create "Percentage Change" Column
          23 #9.Reduce "Percentage Change" to two decimal place (no rounding)***
          24 difference = employment delta.assign(Percentage Change = (100 * (Employment Delta['Thousands of Jobs'] / Employment Delta['2019 Employment'])))
             difference.to csv(r'C:\Users\justi\Dropbox\CompSci Projects\BC Jobs 2019-2020 Changes\Delta 2019 2020.csv', index = False)
          26
          27
          28 #10. Sort columns in a descending order.
             sort descending = difference.sort values('Percentage Change', ascending = False).drop(columns =
          30
                                                                                              ['2019 Employment', '2020 Employment', 'Thousands of Jobs'])
          31
          32 #11. Visualize 'Percentage Difference' using bar chart
          33 #https://altair-viz.github.io/gallery/bar chart sorted.html
          34 alt.Chart(sort descending).mark bar().encode(
          35
                             x='Percentage Change',
          36
                             v=alt.Y('Industry Type', sort='-x')
          37
                             ).properties(title='Changes in BC Employment Levels by Industry Type (2019 to 2020)')
          38
          39
          40
          41
          42
          43
```



In [ ]: