```
import pandas as pd
            import numpy as np
            from sklearn.feature_selection import SelectKBest
            from sklearn.feature_selection import chi2
            data = pd.read_csv("train.csv")
            X = data.iloc[:,0:20]
            y = data.iloc[:,-1]
 In [2]:
            bestfeatures = SelectKBest(score_func=chi2, k=10)
            fit = bestfeatures.fit(X,y)
 In [3]:
            dfscores = pd.DataFrame(fit.scores_)
            dfcolumns = pd.DataFrame(X.columns)
 In [4]:
            featureScores = pd.concat([dfcolumns,dfscores],axis=1)
            featureScores.columns = ['Specs', 'Score']
 In [5]:
            featureScores
 Out[5]:
                     Specs
                                    Score
            0 battery_power
                             14129.866576
            1
                                 0.723232
                       blue
            2
                clock_speed
                                 0.648366
                                 0.631011
            3
                   dual_sim
                         fc
                                10.135166
                                 1.521572
            5
                     four_g
                 int_memory
                                89.839124
            7
                                 0.745820
                     m_dep
            8
                  mobile_wt
                                95.972863
            9
                                 9.097556
                    n_cores
           10
                                 9.186054
                        рс
           11
                  px_height 17363.569536
           12
                              9810.586750
                   px_width
           13
                       ram 931267.519053
           14
                                 9.614878
                      sc_h
           15
                                16.480319
                      SC_W
                   talk_time
                                13.236400
           16
           17
                    three_g
                                 0.327643
           18
               touch_screen
                                 1.928429
           19
                                 0.422091
                        wifi
 In [6]:
            print(featureScores.nlargest(10, 'Score'))
                         Specs
                                          Score
           13
                           ram 931267.519053
                    px_height
                                 17363.569536
               battery_power
           0
                                 14129.866576
           12
                     px_width
                                  9810.586750
                                     95.972863
           8
                    mobile_wt
                   int_memory
                                      89.839124
                                     16.480319
           15
                          SC_W
                    talk_time
                                     13.236400
           16
                                     10.135166
           14
                          sc_h
                                       9.614878
 In [8]:
            from sklearn.ensemble import ExtraTreesClassifier
            import matplotlib.pyplot as plt
            model = ExtraTreesClassifier()
            model.fit(X,y)
 Out[8]: ExtraTreesClassifier()
 In [9]:
            feat_importances = pd.Series(model.feature_importances_, index=X.columns)
            feat_importances.nlargest(10).plot(kind='barh')
            plt.show()
             dock_speed
                  sc_h
             int_memory
               talk_time
              mobile wt
              px_height
               px width
           battery_power
                                 0.10
                                       0.15 0.20 0.25 0.30
In [10]:
            import seaborn as sns
            corrmat = data.corr()
            top_corr_features = corrmat.index
            plt.figure(figsize=(20,20))
            g=sns.heatmap(data[top_corr_features].corr(), annot=True, cmap="RdYlGn")
                              0.011 0.011 -0.042 0.033 0.016 -0.004 0.034 0.0018 -0.03 0.031 0.015 -0.0084-0.00065 -0.03 -0.021 0.053 0.012 -0.011 -0.0083 0.2
           battery_power
                                     0.021 0.035 0.0036 0.013 0.041 0.004 -0.0086 0.036 -0.01 -0.0069 -0.042 0.026 -0.003 0.00061 0.014 -0.03 0.01 -0.022 0.021
                        0.011 0.021
                                           -0.0013-0.00043 -0.043 0.0065 -0.014 0.012 -0.0057 -0.0052 -0.015 -0.0095 0.0034 -0.029 -0.0074 -0.011 -0.046 0.02 -0.024 -0.0066
             dock_speed -
                        -0.042 0.035 -0.0013
                                                 -0.029 0.0032 -0.016 -0.022 -0.009 -0.025 -0.017 -0.021 0.014 0.041 -0.012 -0.017 -0.039 -0.014 -0.017 0.023 0.017
               dual_sim -
                                                        -0.017 -0.029 -0.0018 0.024 -0.013 0.64
                        0.033 0.0036 -0.00043 -0.029
                                                                                              -0.01 -0.0052 0.015 -0.011 -0.012 -0.0068 0.0018 -0.015 0.02 0.022
                        0.016 0.013 -0.043 0.0032 -0.017
                                                             0.0087 -0.0018 -0.017 -0.03 -0.0056 -0.019 0.0074 0.0073 0.027 0.037 -0.047
                                                                                                                                           0.017 -0.018 0.015
                        -0.004 0.041 0.0065 -0.016 -0.029 0.0087
                                                                   0.0069 -0.034 -0.028 -0.033 0.01 -0.0083 0.033 0.038 0.012 -0.0028 -0.0094 -0.027 0.007 0.044
             int_memory 1
                        0.034 0.004 -0.014 -0.022 -0.0018 -0.0018 0.0069
                                                                           0.022 -0.0035 0.026 0.025 0.024 -0.0094 -0.025 -0.018 0.017 -0.012 -0.0026 -0.028 0.00085
              mobile_wt - 0.0018 -0.0086 0.012 -0.009 0.024 -0.017 -0.034 0.022
                                                                                  -0.019 0.019 0.00094 9e-05 -0.0026 -0.034 -0.021 0.0062 0.0016 -0.014 -0.00041 -0.03
                                                                                      -0.0012 -0.0069 0.024 0.0049 -0.00031 0.026 0.013 -0.015 0.024 -0.01 0.0044
                        -0.03 0.036 -0.0057 -0.025 -0.013 -0.03 -0.028 -0.0035 -0.019
                        0.031 -0.01 -0.0052 -0.017 | 0.64 | -0.0056 -0.033 | 0.026 | 0.019 -0.0012 | 1
                                                                                             -0.018 0.0042 0.029 0.0049 -0.024 0.015 -0.0013 -0.0087 0.0054 0.034
               px height - 0.015 -0.0069 -0.015 -0.021 -0.01 -0.019 0.01 0.025 0.00094 -0.0069 -0.018
                                                                                                                                                                              - 0.4
               px width -0.0084 -0.042 -0.0095 0.014 -0.0052 0.0074 -0.0083 0.024 9e-05 0.024 0.0042 0.51
                                                                                                          0.0041 0.022 0.035 0.0067 0.00035 0.0016 0.03 0.17
                                                                                                                  0.016 0.036 0.011 0.016 -0.03 0.023 0.92
                   ram -0.00065 0.026 0.0034 0.041 0.015 0.0073 0.033 -0.0094 -0.0026 0.0049 0.029 -0.02 0.0041
                                                                                                                              -0.017 0.012 -0.02 0.026 0.023
                        -0.03 -0.003 -0.029 -0.012 -0.011 0.027 0.038 -0.025 -0.034 -0.00031 0.0049 0.06 0.022 0.016
                        -0.021 0.00061-0.0074 -0.017 -0.012 0.037 0.012 -0.018 -0.021 0.026 -0.024 0.043 0.035 0.036 <mark>0.51</mark>
                                                                                                                              -0.023 0.031 0.013 0.035 0.039
                        0.053 0.014 -0.011 -0.039 -0.0068 -0.047 -0.0028 0.017 0.0062 0.013 0.015 -0.011 0.0067 0.011 -0.017 -0.023
                                                                                                                                    -0.043 0.017 -0.03 0.022
                        0.012 -0.03 -0.046 -0.014 0.0018 0.58 -0.0094 -0.012 0.0016 -0.015 -0.0013 -0.031 0.00035 0.016 0.012 0.031 -0.043
                                                                                                                                           0.014 0.0043 0.024
                        -0.011 0.01 0.02 -0.017 -0.015 0.017 -0.027 -0.0026 -0.014 0.024 -0.0087 0.022 -0.0016 -0.03 -0.02 0.013 0.017 0.014
                   wifi -0.0083 -0.022 -0.024 0.023 0.02 -0.018 0.007 -0.028 -0.00041 -0.01 0.0054 0.052 0.03 0.023 0.026 0.035 -0.03 0.0043 0.012
                                                                                                                  0.023 0.039 0.022 0.024 -0.03 0.019
                              0.021 -0.0066 0.017 0.022 0.015 0.044 0.00085 -0.03 0.0044 0.034 0.15
             price_range -
 In [ ]:
 In [ ]:
```

In [1]: