```
In [ ]:
          import pandas as pd
          import numpy as np
          import matplotlib.pyplot as plt
In [ ]:
          # i
          df = pd.read_table("./people.txt", delimiter=" ")
          df
Out[]:
                                      status yearsmarried
            Age agegroup Height
         0
              21
                      adult
                                6.0
                                       single
                                                        -1
         1
               2
                      child
                                                        0
                                3.0
                                     married
         2
              18
                      adult
                                5.7
                                     married
                                                       20
         3
             221
                     elderly
                                5.0
                                    widowed
                                                        2
              34
                      child
                               -7.0
                                     married
                                                        3
In [ ]:
          # ii)
          df[df.Age.isin(range(0,150))]
Out[]:
            Age agegroup Height
                                    status yearsmarried
         0
              21
                      adult
                                                       -1
                                6.0
                                      single
         1
               2
                      child
                                3.0 married
                                                       0
         2
              18
                      adult
                                5.7 married
                                                       20
                      child
                                                       3
              34
                               -7.0 married
In [ ]:
          # b
          df[df.Age > df.yearsmarried]
Out[]:
            Age agegroup Height
                                       status yearsmarried
              21
         0
                      adult
                                                        -1
                                6.0
                                       single
         1
               2
                      child
                                3.0
                                     married
                                                        0
                                                        2
             221
                     elderly
                                    widowed
         3
                                5.0
              34
                      child
                               -7.0
                                                        3
                                     married
In [ ]:
          # C
          df[df.status.isin(["married","single","widowed"])]
Out[]:
            Age agegroup Height
                                       status yearsmarried
         0
              21
                      adult
                                6.0
                                                        -1
                                       single
```

```
Age agegroup Height
                                      status yearsmarried
         1
               2
                      child
                                3.0
                                     married
         2
              18
                      adult
                                5.7
                                     married
                                                       20
                                    widowed
                                                        2
         3
             221
                     elderly
                                5.0
                      child
                                     married
                                                        3
              34
                               -7.0
In [ ]:
          # d
          (df[(
               ((df.Age < 18 )& (df.agegroup == "child") )</pre>
               |((df.Age.isin(range(18,66))) & (df.agegroup == "adult"))
               |((df.Age > 65) & (df.agegroup == "elderly"))
          )])
Out[ ]:
            Age agegroup Height
                                       status yearsmarried
         0
              21
                      adult
                                6.0
                                       single
                                                        -1
         1
                      child
                                                        0
               2
                                3.0
                                     married
         2
                                                       20
              18
                      adult
                                5.7
                                     married
         3
             221
                                5.0 widowed
                                                        2
                     elderly
In [ ]:
          # iv above
In [ ]:
          plt.scatter(df.Age, df.Height)
          plt.xlabel("AGE")
          plt.ylabel("HEIGHT")
         Text(0, 0.5, 'HEIGHT')
Out[ ]:
             6
             4
             2
         HEIGHT
             0
            -2
            -4
            -6
                 0
                           50
                                      100
                                                 150
                                                            200
```

AGE