

```
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[ ]:
```

	Age	agegroup	Height	status	yearsmarried
0	21	adult	6.0	single	-1
1	2	child	3.0	married	0
2	18	adult	5.7	married	20
3	221	elderly	5.0	widowed	2
4	34	child	-7.0	married	3

```
In [ ]: # ii)
# a
df[df.Age.isin(range(0,150))]
```

```
Out[ ]:
```

	Age	agegroup	Height	status	yearsmarried
0	21	adult	6.0	single	-1
1	2	child	3.0	married	0
2	18	adult	5.7	married	20
4	34	child	-7.0	married	3

```
In [ ]: # b
df[df.Age > df.yearsmarried]
```

```
Out[ ]:
```

	Age	agegroup	Height	status	yearsmarried
0	21	adult	6.0	single	-1
1	2	child	3.0	married	0
3	221	elderly	5.0	widowed	2
4	34	child	-7.0	married	3

```
In [ ]: # c
df[df.status.isin(["married", "single", "widowed"])]
```

```
Out[ ]:
```

	Age	agegroup	Height	status	yearsmarried
0	21	adult	6.0	single	-1

	Age	agegroup	Height	status	yearsmarried
1	2	child	3.0	married	0
2	18	adult	5.7	married	20
3	221	elderly	5.0	widowed	2
4	34	child	-7.0	married	3

```
In [ ]: # d
(df[(
    ((df.Age < 18 )& (df.agegroup == "child")) )
    |((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     2      child    3.0    married           0
2    18      adult    5.7    married          20
3   221     elderly    5.0    widowed           2
```

```
In [ ]: # iv above
```

```
In [ ]: plt.scatter(df.Age, df.Height)
plt.xlabel("AGE")
plt.ylabel("HEIGHT")
```

```
Out[ ]: Text(0, 0.5, 'HEIGHT')
```

