3_2ndassessment_Q6.R

ACER

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```
#Q. no. 6

set.seed(3)

#a) Creating dataset

n_sample <- 200

# age
age <- c(as.integer(runif(n_sample, min = 10, max = 99)))
age
```

```
##   [1] 24 81 44 39 63 63 21 36 61 66 55 54 57 59 87 83 19 72 89 34 30 11 21 18 31
##  [26] 80 63 91 59 77 43 43 25 50 32 39 89 27 61 28 35 79 25 60 47 33 14 19 37 81
##  [51] 30 28 88 98 85 91 51 29 21 34 82 15 81 19 78 37 78 58 42 18 77 77 90 95 55
##  [76] 58 24 24 79 76 79 68 43 10 95 84 28 54 66 91 11 33 48 83 87 32 38 37 26 70
## [101] 78 70 28 73 63 40 13 45 17 37 38 16 23 23 91 72 83 69 29 51 73 83 83 27 63
## [126] 48 66 47 88 38 38 53 40 29 83 57 18 19 61 57 53 38 70 86 85 33 63 83 62 27
## [151] 78 21 89 37 67 33 24 19 48 13 95 55 42 88 77 77 89 26 79 58 54 19 62 89 26
## [176] 57 69 79 26 60 27 37 24 18 32 40 86 21 40 38 51 85 38 59 72 44 83 90 47 34
```

```
# sex
x <- runif(n_sample)
x
```

```
##   [1] 0.731498069 0.860490103 0.342710264 0.492922179 0.853853280 0.387253000
##   [7] 0.726507528 0.684121700 0.845532960 0.032801330 0.728461744 0.476622152
##  [13] 0.581891980 0.207050472 0.028866007 0.973261138 0.247435242 0.119677689
##  [19] 0.684861997 0.734296159 0.321671058 0.810468123 0.389837841 0.596081765
##  [25] 0.339550524 0.718054021 0.947251249 0.081431360 0.235437622 0.362547337
##  [31] 0.325240832 0.416526598 0.505687594 0.617336422 0.585414386 0.899230674
##  [37] 0.574902724 0.313261902 0.480002025 0.595621372 0.067402480 0.734873360
##  [43] 0.643502895 0.067354849 0.697472189 0.349260462 0.314073900 0.982316888
##  [49] 0.750116250 0.704857191 0.222896154 0.255225131 0.650278992 0.617265564
##  [55] 0.253344082 0.518791282 0.042322860 0.470853390 0.876224666 0.949819612
##  [61] 0.756004153 0.926369914 0.556916653 0.619347434 0.932257000 0.671142859
##  [67] 0.051323579 0.176438225 0.550864592 0.201110325 0.008115848 0.722725575
##  [73] 0.925620419 0.925581137 0.189729635 0.354583375 0.095701771 0.076272555
##  [79] 0.190189280 0.264872305 0.122134933 0.007912433 0.023720172 0.393437251
##  [85] 0.161100688 0.369342118 0.439717848 0.997099230 0.819249001 0.683323223
##  [91] 0.658241947 0.600403723 0.107084272 0.638079299 0.260211204 0.581881185
```

```
##  [97] 0.973211672 0.839522904 0.659170150 0.402259134 0.098291292 0.319468302
## [103] 0.995793696 0.726288641 0.686896446 0.629259285 0.803417670 0.543194812
## [109] 0.861800134 0.984195038 0.589404719 0.055763965 0.527186321 0.619151212
## [115] 0.162357343 0.940457270 0.094953474 0.811324252 0.993131255 0.644329000
## [121] 0.252888367 0.207669743 0.819342609 0.271724660 0.832643491 0.540848610
## [127] 0.946082732 0.821902134 0.966776737 0.923934166 0.758804685 0.505166420
## [133] 0.888360289 0.135224058 0.130579955 0.922843314 0.748038553 0.053167388
## [139] 0.888085900 0.109725193 0.592730832 0.281649103 0.337718944 0.498143405
## [145] 0.594144801 0.424354082 0.290958007 0.048176715 0.308325355 0.876894003
## [151] 0.877767225 0.243719093 0.984440078 0.886504390 0.043710932 0.374664020
## [157] 0.054708107 0.767692612 0.149506237 0.966848894 0.626688059 0.106133956
## [163] 0.187042615 0.821542461 0.653090973 0.112306555 0.593493736 0.479501450
## [169] 0.333417145 0.286322674 0.291868915 0.100969520 0.093042183 0.288753120
## [175] 0.752420596 0.919001743 0.984721316 0.278059825 0.338460029 0.050685005
## [181] 0.087340113 0.337336857 0.251038139 0.362837524 0.742127480 0.706643337
## [187] 0.779732819 0.401248579 0.996281684 0.331007475 0.085207515 0.854467647
## [193] 0.523029755 0.997034463 0.421887353 0.228629269 0.103561205 0.898880844
## [199] 0.253843816 0.413355544
```

```
sex <- ifelse(x>0.5, "male", "female")
sex
```

```
##   [1] "male"   "male"   "female" "female" "male"   "female" "male"   "male"
##   [9] "male"   "female" "male"   "female" "male"   "female" "female" "male"
##  [17] "female" "female" "male"   "male"   "female" "male"   "female" "male"
##  [25] "female" "male"   "male"   "female" "female" "female" "female" "female"
##  [33] "male"   "male"   "male"   "male"   "male"   "female" "female" "male"
##  [41] "female" "male"   "male"   "female" "male"   "female" "female" "male"
##  [49] "male"   "male"   "female" "female" "male"   "male"   "female" "male"
##  [57] "female" "female" "male"   "male"   "male"   "male"   "male"   "male"
##  [65] "male"   "male"   "female" "female" "male"   "female" "female" "male"
##  [73] "male"   "male"   "female" "female" "female" "female" "female" "female"
##  [81] "female" "female" "female" "female" "female" "female" "female" "male"
##  [89] "male"   "male"   "male"   "male"   "female" "male"   "female" "male"
##  [97] "male"   "male"   "male"   "female" "female" "female" "male"   "male"
## [105] "male"   "male"   "male"   "male"   "male"   "male"   "male"   "female"
## [113] "male"   "male"   "female" "male"   "female" "male"   "male"   "male"
## [121] "female" "female" "male"   "female" "male"   "male"   "male"   "male"
## [129] "male"   "male"   "male"   "male"   "male"   "female" "female" "male"
## [137] "male"   "female" "male"   "female" "male"   "female" "female" "female"
## [145] "male"   "female" "female" "female" "female" "male"   "male"   "female"
## [153] "male"   "male"   "female" "female" "female" "male"   "female" "male"
## [161] "male"   "female" "female" "male"   "male"   "female" "male"   "female"
## [169] "female" "female" "female" "female" "female" "female" "male"   "male"
## [177] "male"   "female" "female" "female" "female" "female" "female" "female"
## [185] "male"   "male"   "male"   "female" "male"   "female" "female" "male"
## [193] "male"   "male"   "female" "female" "female" "male"   "female" "female"
```

```
table(sex)
```

```
## sex
## female   male
##     97    103
```

```r
# educational levels

x1 <- runif(n_sample)
edu_lvl <- ifelse(x1<0.2, "no education", ifelse(
  age<11, "primary", ifelse(
    age<16, "secondary", "beyond secondary"
    )
  )
)
edu_lvl
```

```
##   [1] "no education"     "beyond secondary" "beyond secondary"
##   [4] "beyond secondary" "beyond secondary" "beyond secondary"
##   [7] "no education"     "beyond secondary" "beyond secondary"
##  [10] "beyond secondary" "beyond secondary" "beyond secondary"
##  [13] "no education"     "beyond secondary" "beyond secondary"
##  [16] "beyond secondary" "no education"     "beyond secondary"
##  [19] "no education"     "beyond secondary" "beyond secondary"
##  [22] "secondary"        "no education"     "beyond secondary"
##  [25] "beyond secondary" "beyond secondary" "beyond secondary"
##  [28] "no education"     "beyond secondary" "beyond secondary"
##  [31] "beyond secondary" "no education"     "beyond secondary"
##  [34] "beyond secondary" "beyond secondary" "beyond secondary"
##  [37] "beyond secondary" "beyond secondary" "beyond secondary"
##  [40] "beyond secondary" "beyond secondary" "beyond secondary"
##  [43] "beyond secondary" "beyond secondary" "no education"
##  [46] "beyond secondary" "secondary"        "beyond secondary"
##  [49] "beyond secondary" "beyond secondary" "beyond secondary"
##  [52] "beyond secondary" "beyond secondary" "beyond secondary"
##  [55] "beyond secondary" "beyond secondary" "beyond secondary"
##  [58] "beyond secondary" "beyond secondary" "beyond secondary"
##  [61] "no education"     "secondary"        "beyond secondary"
##  [64] "beyond secondary" "beyond secondary" "beyond secondary"
##  [67] "no education"     "beyond secondary" "beyond secondary"
##  [70] "beyond secondary" "beyond secondary" "no education"
##  [73] "no education"     "no education"     "no education"
##  [76] "beyond secondary" "beyond secondary" "beyond secondary"
##  [79] "beyond secondary" "beyond secondary" "beyond secondary"
##  [82] "beyond secondary" "beyond secondary" "primary"
##  [85] "beyond secondary" "no education"     "beyond secondary"
##  [88] "beyond secondary" "beyond secondary" "beyond secondary"
##  [91] "secondary"        "beyond secondary" "beyond secondary"
##  [94] "beyond secondary" "beyond secondary" "beyond secondary"
##  [97] "beyond secondary" "beyond secondary" "beyond secondary"
## [100] "beyond secondary" "beyond secondary" "beyond secondary"
## [103] "beyond secondary" "beyond secondary" "beyond secondary"
## [106] "beyond secondary" "secondary"        "beyond secondary"
## [109] "beyond secondary" "beyond secondary" "beyond secondary"
## [112] "no education"     "no education"     "beyond secondary"
## [115] "beyond secondary" "beyond secondary" "beyond secondary"
## [118] "beyond secondary" "no education"     "beyond secondary"
## [121] "beyond secondary" "beyond secondary" "beyond secondary"
## [124] "beyond secondary" "beyond secondary" "no education"
```

```
## [127] "beyond secondary" "beyond secondary" "beyond secondary"
## [130] "no education"     "no education"     "beyond secondary"
## [133] "beyond secondary" "beyond secondary" "beyond secondary"
## [136] "beyond secondary" "beyond secondary" "no education"
## [139] "beyond secondary" "beyond secondary" "beyond secondary"
## [142] "beyond secondary" "beyond secondary" "beyond secondary"
## [145] "beyond secondary" "no education"     "beyond secondary"
## [148] "beyond secondary" "beyond secondary" "no education"
## [151] "beyond secondary" "beyond secondary" "beyond secondary"
## [154] "beyond secondary" "beyond secondary" "beyond secondary"
## [157] "beyond secondary" "beyond secondary" "no education"
## [160] "secondary"        "beyond secondary" "beyond secondary"
## [163] "beyond secondary" "beyond secondary" "no education"
## [166] "beyond secondary" "beyond secondary" "beyond secondary"
## [169] "beyond secondary" "beyond secondary" "no education"
## [172] "beyond secondary" "beyond secondary" "beyond secondary"
## [175] "beyond secondary" "beyond secondary" "beyond secondary"
## [178] "beyond secondary" "no education"     "beyond secondary"
## [181] "beyond secondary" "beyond secondary" "beyond secondary"
## [184] "beyond secondary" "beyond secondary" "beyond secondary"
## [187] "beyond secondary" "beyond secondary" "beyond secondary"
## [190] "no education"     "beyond secondary" "beyond secondary"
## [193] "beyond secondary" "no education"     "beyond secondary"
## [196] "beyond secondary" "beyond secondary" "beyond secondary"
## [199] "beyond secondary" "beyond secondary"
```

```r
# socio-economic status
x2 <- runif(n_sample)
se_status <- ifelse(x2<0.4, "low", ifelse(
  x2<0.7, "middle", "high"
  )
)
se_status
```

```
##   [1] "low"    "middle" "high"   "high"   "low"    "low"    "low"    "low"
##   [9] "low"    "middle" "high"   "high"   "low"    "high"   "middle" "low"
##  [17] "middle" "high"   "low"    "low"    "middle" "low"    "high"   "middle"
##  [25] "high"   "low"    "low"    "low"    "low"    "low"    "middle" "low"
##  [33] "middle" "middle" "low"    "low"    "middle" "low"    "middle" "middle"
##  [41] "low"    "low"    "high"   "high"   "low"    "low"    "middle" "low"
##  [49] "high"   "middle" "middle" "low"    "low"    "low"    "low"    "low"
##  [57] "middle" "low"    "low"    "high"   "low"    "high"   "low"    "high"
##  [65] "high"   "high"   "low"    "high"   "high"   "middle" "high"   "middle"
##  [73] "middle" "low"    "high"   "middle" "middle" "middle" "low"    "high"
##  [81] "middle" "high"   "high"   "high"   "high"   "middle" "middle" "low"
##  [89] "middle" "middle" "middle" "middle" "middle" "middle" "high"   "high"
##  [97] "high"   "high"   "middle" "middle" "low"    "high"   "middle" "middle"
## [105] "middle" "high"   "middle" "middle" "middle" "high"   "middle" "middle"
## [113] "low"    "low"    "high"   "middle" "middle" "low"    "middle" "low"
## [121] "high"   "middle" "middle" "low"    "low"    "high"   "low"    "low"
## [129] "high"   "high"   "high"   "high"   "low"    "high"   "middle" "low"
## [137] "high"   "high"   "middle" "low"    "high"   "middle" "low"    "high"
## [145] "low"    "low"    "middle" "low"    "low"    "middle" "high"   "low"
## [153] "low"    "low"    "low"    "low"    "middle" "low"    "high"   "middle"
```

```
## [161] "low"    "middle" "low"    "low"    "low"    "low"    "low"    "low"
## [169] "middle" "middle" "middle" "high"   "low"    "middle" "low"    "low"
## [177] "low"    "low"    "low"    "middle" "low"    "middle" "low"    "low"
## [185] "middle" "middle" "middle" "low"    "high"   "low"    "low"    "high"
## [193] "low"    "low"    "low"    "high"   "middle" "high"   "middle" "low"
```

```
# BMI
bmi <- as.integer(runif(n_sample, min = 14, max = 38))
bmi
```

```
##   [1] 37 31 33 20 30 35 27 21 23 29 32 34 37 28 30 26 36 34 36 23 21 19 22 14 21
##  [26] 36 29 25 23 34 19 30 36 30 19 22 23 16 20 23 31 36 26 37 28 22 23 15 26 17
##  [51] 16 16 16 33 28 33 36 36 17 34 24 22 20 21 33 28 37 22 17 21 30 31 26 15 23
##  [76] 17 28 23 22 22 27 22 30 24 34 32 16 24 33 23 18 33 15 14 14 17 33 27 37 19
## [101] 26 25 15 30 30 19 17 27 34 37 17 32 25 28 28 19 37 26 26 31 31 34 30 37 21
## [126] 30 20 18 37 18 31 28 22 27 32 30 36 26 34 34 32 27 26 20 17 25 25 25 37 34
## [151] 17 15 34 14 20 29 14 37 16 35 25 14 36 30 33 28 33 15 34 27 21 32 36 26 20
## [176] 29 16 29 23 35 36 33 14 24 26 21 37 17 22 28 33 17 15 14 17 18 17 26 25 26
```

```
new_dataset <- as.data.frame(cbind(age, sex, edu_lvl, se_status, bmi))
new_dataset
```

```
##     age    sex          edu_lvl se_status bmi
## 1    24   male       no education       low  37
## 2    81   male beyond secondary    middle  31
## 3    44 female beyond secondary      high  33
## 4    39 female beyond secondary      high  20
## 5    63   male beyond secondary       low  30
## 6    63 female beyond secondary       low  35
## 7    21   male       no education       low  27
## 8    36   male beyond secondary       low  21
## 9    61   male beyond secondary       low  23
## 10   66 female beyond secondary    middle  29
## 11   55   male beyond secondary      high  32
## 12   54 female beyond secondary      high  34
## 13   57   male       no education       low  37
## 14   59 female beyond secondary      high  28
## 15   87 female beyond secondary    middle  30
## 16   83   male beyond secondary       low  26
## 17   19 female       no education    middle  36
## 18   72 female beyond secondary      high  34
## 19   89   male       no education       low  36
## 20   34   male beyond secondary       low  23
## 21   30 female beyond secondary    middle  21
## 22   11   male          secondary       low  19
## 23   21 female       no education      high  22
## 24   18   male beyond secondary    middle  14
## 25   31 female beyond secondary      high  21
## 26   80   male beyond secondary       low  36
## 27   63   male beyond secondary       low  29
## 28   91 female       no education       low  25
## 29   59 female beyond secondary       low  23
## 30   77 female beyond secondary       low  34
```

```
## 31   43 female beyond secondary    middle  19
## 32   43 female     no education       low  30
## 33   25   male beyond secondary    middle  36
## 34   50   male beyond secondary    middle  30
## 35   32   male beyond secondary       low  19
## 36   39   male beyond secondary       low  22
## 37   89   male beyond secondary    middle  23
## 38   27 female beyond secondary       low  16
## 39   61 female beyond secondary    middle  20
## 40   28   male beyond secondary    middle  23
## 41   35 female beyond secondary       low  31
## 42   79   male beyond secondary       low  36
## 43   25   male beyond secondary      high  26
## 44   60 female beyond secondary      high  37
## 45   47   male     no education       low  28
## 46   33 female beyond secondary       low  22
## 47   14 female        secondary    middle  23
## 48   19   male beyond secondary       low  15
## 49   37   male beyond secondary      high  26
## 50   81   male beyond secondary    middle  17
## 51   30 female beyond secondary    middle  16
## 52   28 female beyond secondary       low  16
## 53   88   male beyond secondary       low  16
## 54   98   male beyond secondary       low  33
## 55   85 female beyond secondary       low  28
## 56   91   male beyond secondary       low  33
## 57   51 female beyond secondary    middle  36
## 58   29 female beyond secondary       low  36
## 59   21   male beyond secondary       low  17
## 60   34   male beyond secondary      high  34
## 61   82   male     no education       low  24
## 62   15   male        secondary      high  22
## 63   81   male beyond secondary       low  20
## 64   19   male beyond secondary      high  21
## 65   78   male beyond secondary      high  33
## 66   37   male beyond secondary      high  28
## 67   78 female     no education       low  37
## 68   58 female beyond secondary      high  22
## 69   42   male beyond secondary      high  17
## 70   18 female beyond secondary    middle  21
## 71   77 female beyond secondary      high  30
## 72   77   male     no education    middle  31
## 73   90   male     no education    middle  26
## 74   95   male     no education       low  15
## 75   55 female     no education      high  23
## 76   58 female beyond secondary    middle  17
## 77   24 female beyond secondary    middle  28
## 78   24 female beyond secondary    middle  23
## 79   79 female beyond secondary       low  22
## 80   76 female beyond secondary      high  22
## 81   79 female beyond secondary    middle  27
## 82   68 female beyond secondary      high  22
## 83   43 female beyond secondary      high  30
## 84   10 female          primary      high  24
```

```
## 85   95 female beyond secondary      high  34
## 86   84 female     no education    middle  32
## 87   28 female beyond secondary    middle  16
## 88   54   male beyond secondary       low  24
## 89   66   male beyond secondary    middle  33
## 90   91   male beyond secondary    middle  23
## 91   11   male        secondary    middle  18
## 92   33   male beyond secondary    middle  33
## 93   48 female beyond secondary    middle  15
## 94   83   male beyond secondary    middle  14
## 95   87 female beyond secondary      high  14
## 96   32   male beyond secondary      high  17
## 97   38   male beyond secondary      high  33
## 98   37   male beyond secondary      high  27
## 99   26   male beyond secondary    middle  37
## 100  70 female beyond secondary    middle  19
## 101  78 female beyond secondary       low  26
## 102  70 female beyond secondary      high  25
## 103  28   male beyond secondary    middle  15
## 104  73   male beyond secondary    middle  30
## 105  63   male beyond secondary    middle  30
## 106  40   male beyond secondary      high  19
## 107  13   male        secondary    middle  17
## 108  45   male beyond secondary    middle  27
## 109  17   male beyond secondary    middle  34
## 110  37   male beyond secondary      high  37
## 111  38   male beyond secondary    middle  17
## 112  16 female     no education    middle  32
## 113  23   male     no education       low  25
## 114  23   male beyond secondary       low  28
## 115  91 female beyond secondary      high  28
## 116  72   male beyond secondary    middle  19
## 117  83 female beyond secondary    middle  37
## 118  69   male beyond secondary       low  26
## 119  29   male     no education    middle  26
## 120  51   male beyond secondary       low  31
## 121  73 female beyond secondary      high  31
## 122  83 female beyond secondary    middle  34
## 123  83   male beyond secondary    middle  30
## 124  27 female beyond secondary       low  37
## 125  63   male beyond secondary       low  21
## 126  48   male     no education      high  30
## 127  66   male beyond secondary       low  20
## 128  47   male beyond secondary       low  18
## 129  88   male beyond secondary      high  37
## 130  38   male     no education      high  18
## 131  38   male     no education      high  31
## 132  53   male beyond secondary      high  28
## 133  40   male beyond secondary       low  22
## 134  29 female beyond secondary      high  27
## 135  83 female beyond secondary    middle  32
## 136  57   male beyond secondary       low  30
## 137  18   male beyond secondary      high  36
## 138  19 female     no education      high  26
```

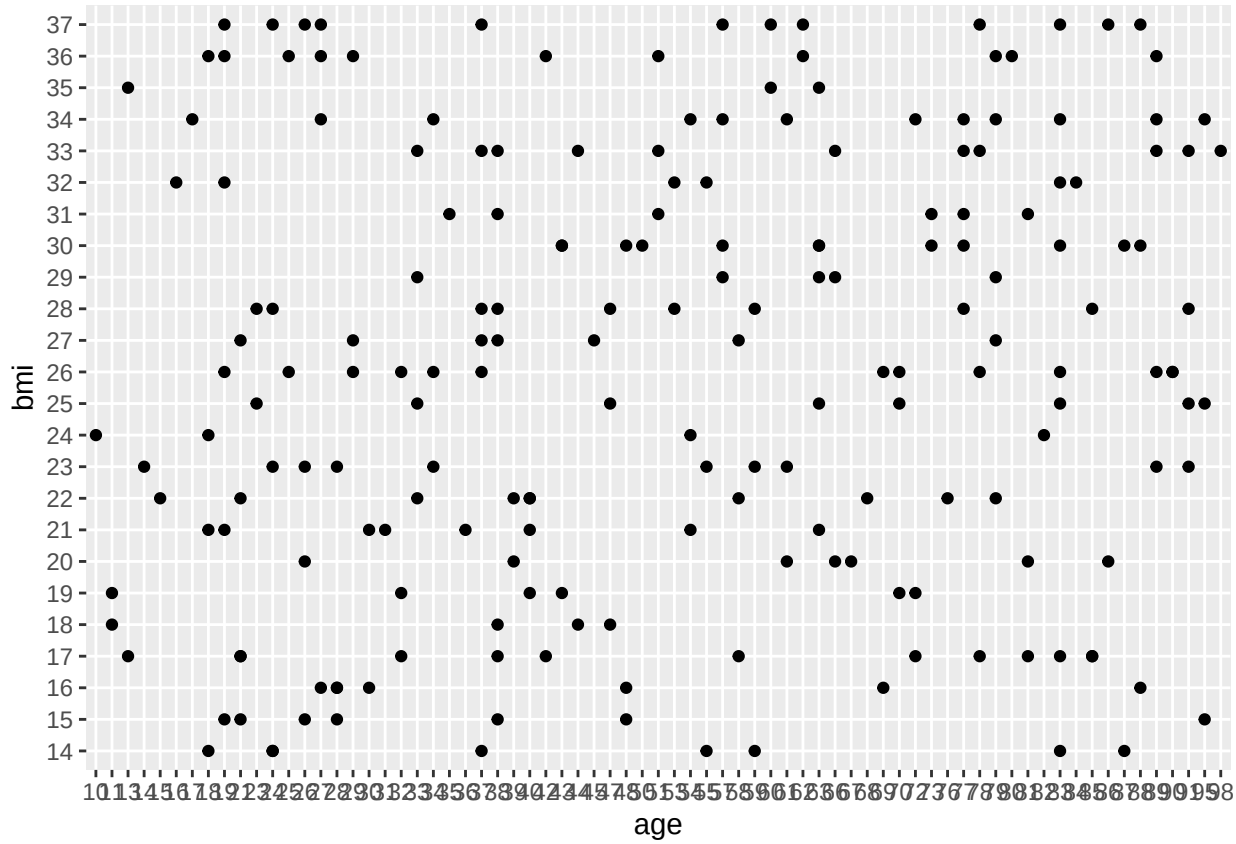
```
## 139  61   male beyond secondary    middle  34
## 140  57 female beyond secondary       low  34
## 141  53   male beyond secondary      high  32
## 142  38 female beyond secondary    middle  27
## 143  70 female beyond secondary       low  26
## 144  86 female beyond secondary      high  20
## 145  85   male beyond secondary       low  17
## 146  33 female     no education       low  25
## 147  63 female beyond secondary    middle  25
## 148  83 female beyond secondary       low  25
## 149  62 female beyond secondary       low  37
## 150  27   male     no education    middle  34
## 151  78   male beyond secondary      high  17
## 152  21 female beyond secondary       low  15
## 153  89   male beyond secondary       low  34
## 154  37   male beyond secondary       low  14
## 155  67 female beyond secondary       low  20
## 156  33 female beyond secondary       low  29
## 157  24 female beyond secondary    middle  14
## 158  19   male beyond secondary       low  37
## 159  48 female     no education      high  16
## 160  13   male         secondary    middle  35
## 161  95   male beyond secondary       low  25
## 162  55 female beyond secondary    middle  14
## 163  42 female beyond secondary       low  36
## 164  88   male beyond secondary       low  30
## 165  77   male     no education       low  33
## 166  77 female beyond secondary       low  28
## 167  89   male beyond secondary       low  33
## 168  26 female beyond secondary       low  15
## 169  79 female beyond secondary    middle  34
## 170  58 female beyond secondary    middle  27
## 171  54 female     no education    middle  21
## 172  19 female beyond secondary      high  32
## 173  62 female beyond secondary       low  36
## 174  89 female beyond secondary    middle  26
## 175  26   male beyond secondary       low  20
## 176  57   male beyond secondary       low  29
## 177  69   male beyond secondary       low  16
## 178  79 female beyond secondary       low  29
## 179  26 female     no education       low  23
## 180  60 female beyond secondary    middle  35
## 181  27 female beyond secondary       low  36
## 182  37 female beyond secondary    middle  33
## 183  24 female beyond secondary       low  14
## 184  18 female beyond secondary       low  24
## 185  32   male beyond secondary    middle  26
## 186  40   male beyond secondary    middle  21
## 187  86   male beyond secondary    middle  37
## 188  21 female beyond secondary       low  17
## 189  40   male beyond secondary      high  22
## 190  38 female     no education       low  28
## 191  51 female beyond secondary       low  33
## 192  85   male beyond secondary      high  17
```

```
## 193  38   male beyond secondary       low  15
## 194  59   male     no education       low  14
## 195  72 female beyond secondary       low  17
## 196  44 female beyond secondary      high  18
## 197  83 female beyond secondary    middle  17
## 198  90   male beyond secondary      high  26
## 199  47 female beyond secondary    middle  25
## 200  34 female beyond secondary       low  26
```

```
str(new_dataset)
```

```
## 'data.frame':    200 obs. of  5 variables:
##  $ age      : chr  "24" "81" "44" "39" ...
##  $ sex      : chr  "male" "male" "female" "female" ...
##  $ edu_lvl  : chr  "no education" "beyond secondary" "beyond secondary" "beyond secondary" ...
##  $ se_status: chr  "low" "middle" "high" "high" ...
##  $ bmi      : chr  "37" "31" "33" "20" ...
```

```
# b) scatterplot age x bmi
library(ggplot2)
ggplot(new_dataset, aes(x = age, y = bmi))+
  geom_point()
```



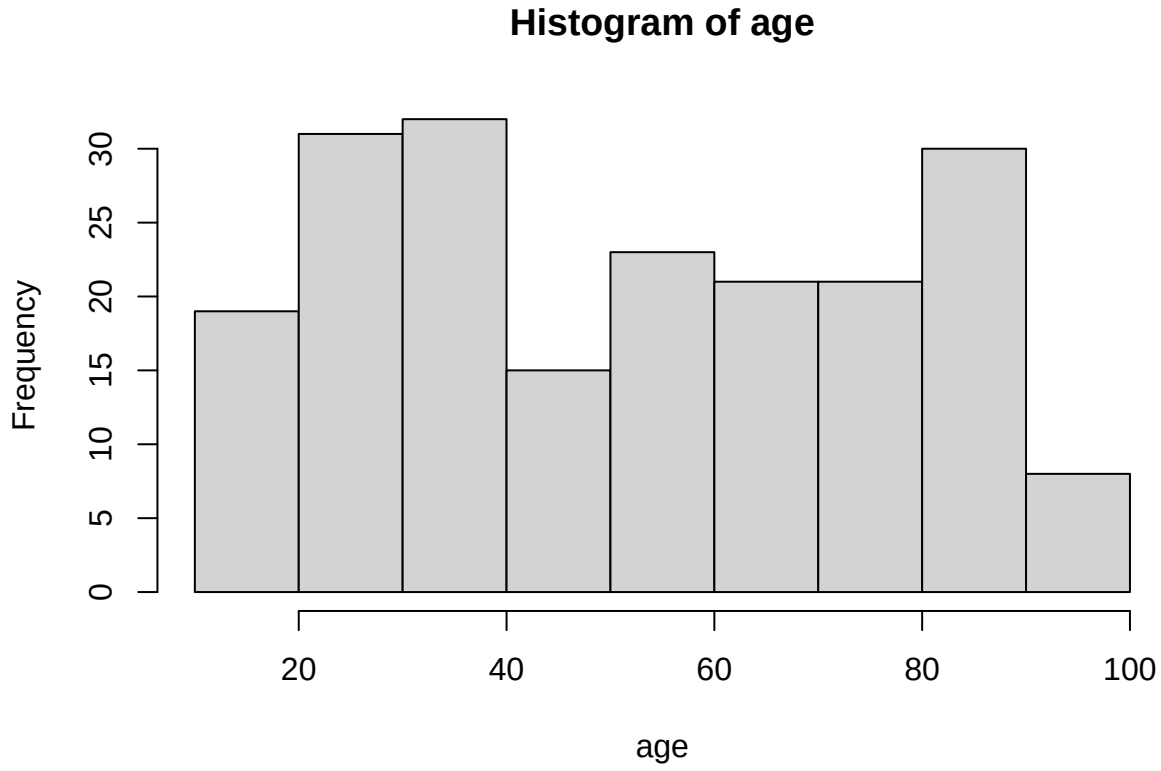
```r
# interpretation: BMI and age does not show any correlation
# This might because we have taken random data


# c) Pie-chart of BMI


# d) histogram of age bin size 15
hist(age, bins = 15)
```

```
## Warning in plot.window(xlim, ylim, "", ...): "bins" is not a graphical
## parameter
```

```
## Warning in title(main = main, sub = sub, xlab = xlab, ylab = ylab, ...): "bins"
## is not a graphical parameter
```

```
## Warning in axis(1, ...): "bins" is not a graphical parameter
```

```
## Warning in axis(2, at = yt, ...): "bins" is not a graphical parameter
```




```r
# interpretation: pretty much uniformly distributed other than
# age of 30 to 50, 60 to 70 and 80 to 90 are bit higher than other age group
```