Descriptive Statistics

Contents

1 Get The Data

1.1 Simulated Social Service Agency Data

```
library(readxl)

clients <- read_excel("../../social-service-agency/social-service-agency.xlsx", sheet = "client

head(clients) # look at the data
```

```
## # A tibble: 6 x 8
##      ID   age gender program mental_health_T1 mental_health_T2 latitude
##   <dbl> <dbl> <chr>  <chr>              <dbl>            <dbl>    <dbl>
## 1  1838    22 Female Progra~             90.0             93.5     42.2
## 2  2132    18 Male   Progra~             84.4             81.4     42.4
## 3  3935    33 Female Progra~            105.              101.      42.4
```

```
## 4  1458    25 Female Progra~             76.8             96.0     42.3
## 5  4304    27 Female Progra~             94.5            101.      42.1
## 6  1227    34 Female Progra~             84.4             97.9     42.2
## # ... with 1 more variable: longitude <dbl>
```

2 Continuous Variable

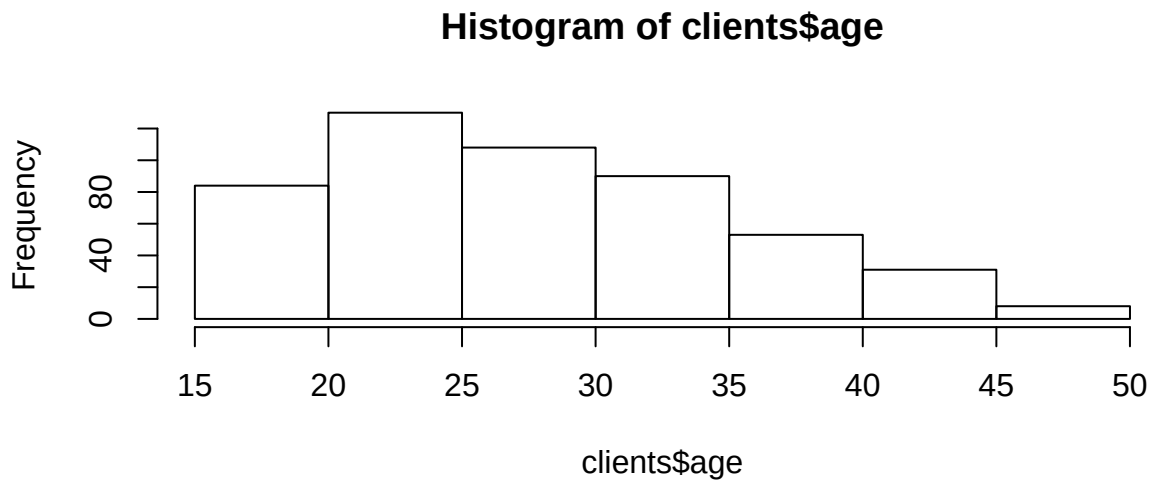
2.1 Descriptive Statistics

```
summary(clients$age)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   18.00   22.00   27.00   28.32   34.00   48.00
```

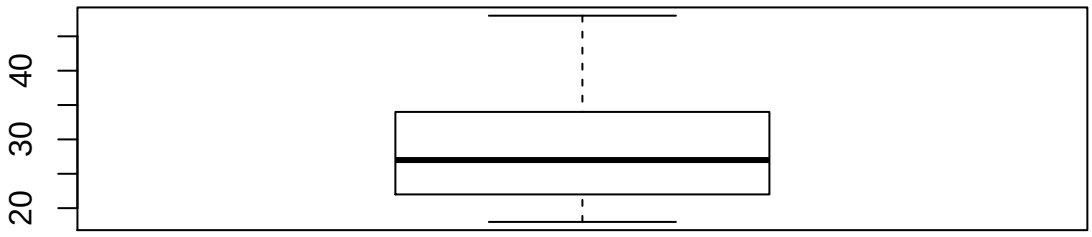
2.2 Graph of Continuous Variable (1)

```
hist(clients$age)
```



2.3 Graph of Continuous Variable (2)

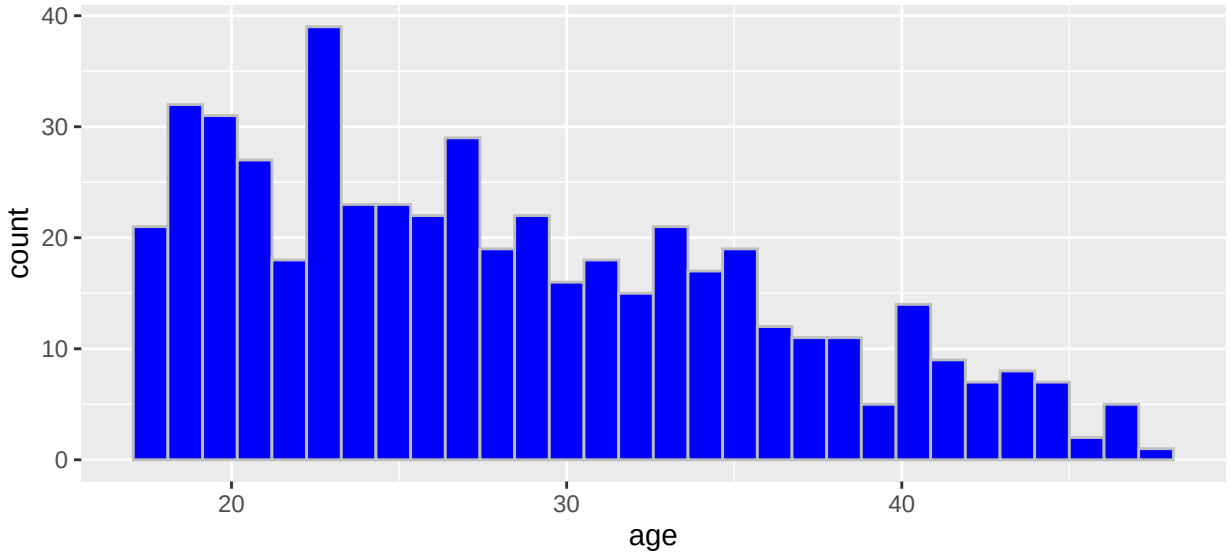
```
boxplot(clients$age)
```



2.4 Graph of Continuous Variable (3, ggplot)

```
library(ggplot2)

ggplot(clients,
       aes(x = age)) +
  geom_histogram(fill = "blue", color = "grey")
```



3 Categorical Variable

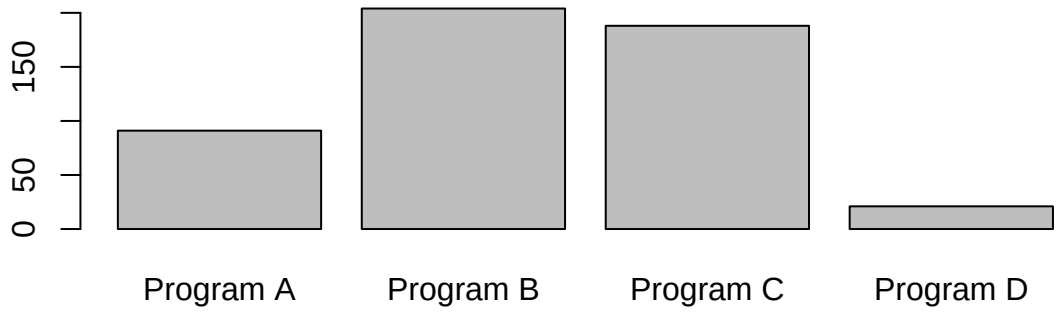
3.1 Descriptive Statistics

```
table(clients$program)
```

```
##
## Program A Program B Program C Program D
##        91       204       188        21
```

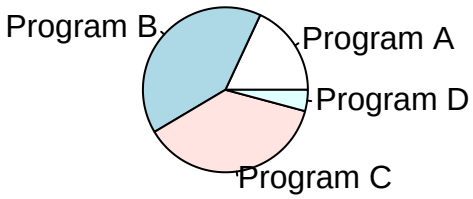
3.2 Graph of Categorical Variable

```
barplot(table(clients$program))
```



3.3 Graph of Categorical Variable (2)

```
pie(table(clients$program))
```



3.4 Graph of Categorical Variable (3, ggplot)

```
ggplot(clients,
       aes(x = program,
           fill = program)) +
  geom_bar()
```