Module 1 Assignment 3

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2026-02-16

1.

```
## [1] NA
```

2.

```
## [1] 64.94737
```

3.

```
##  [1] 63 60 65 NA 61 61 59 64 63 63 65 64 63 65
```

4.

```
## [1] "Mystery" "Hazel"   "Spud"    "Pancho"
```

5.

```
## [1] "Spud"
```

6.

```
## [1] "Spud"
```

8.

```
##   group_id paddle_id length_cm width_cm depth_cm spines insects damage location
## 1        1         1      19.7     12.7      2.0      N       N   None    First
## 2        1         2      20.0     14.0      1.0      N       N   None   Second
## 3        1         3      23.0     15.0      1.5      N       N   Some    Third
## 4        1         4      22.0     11.0      1.0      N       N   None   Fourth
## 5        1         5      16.5      9.0      0.8      N       N   None    Fifth
## 6        1         6      19.0     11.5      0.9      N       Y   Some   Fourth
##     group_members temp_F               species  size
## 1 DC, Hali Nahush     64 Opuntia ficus-indica Large
## 2 DC, Hali Nahush     64 Opuntia ficus-indica Large
## 3 DC, Hali Nahush     64 Opuntia ficus-indica Large
## 4 DC, Hali Nahush     64 Opuntia ficus-indica Large
## 5 DC, Hali Nahush     64 Opuntia ficus-indica Large
## 6 DC, Hali Nahush     64 Opuntia ficus-indica Large
```
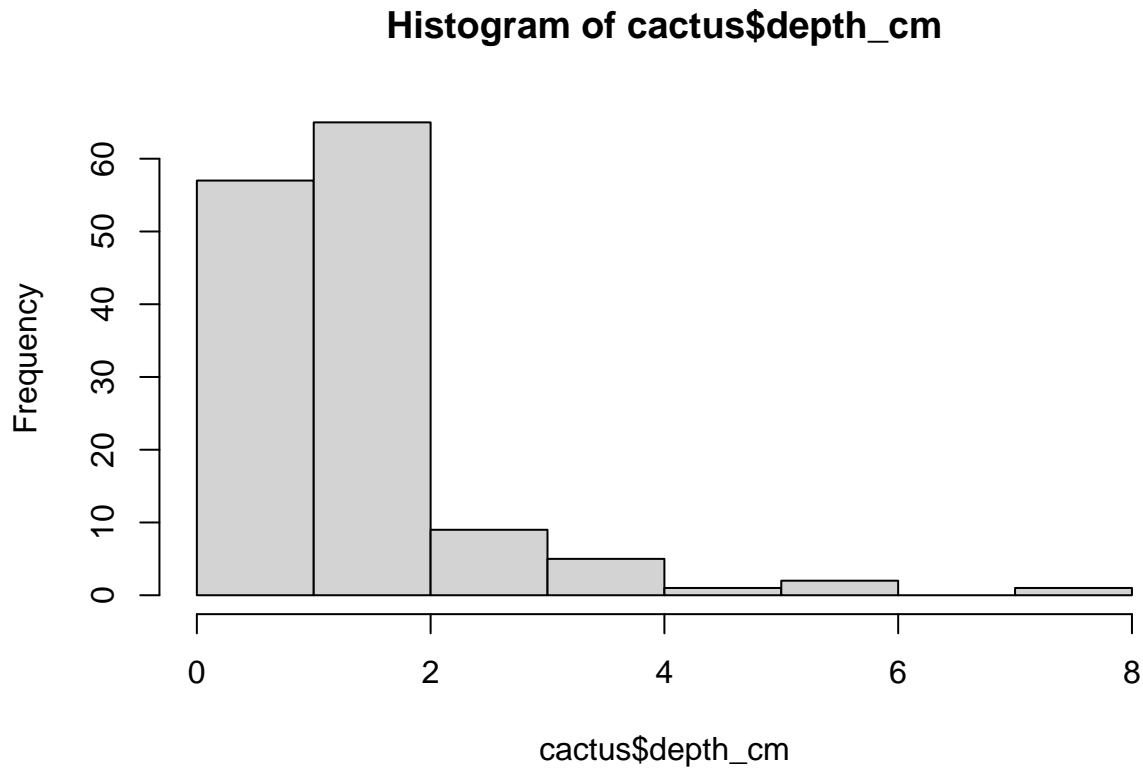
9.

```
## [1] 23.42186
```

10.

```
## [1] 23.4
```

11.

Histogram of cactus$depth_cm

13.

```
##  [1] 2.000 1.000 1.500 1.000 0.800 0.900 1.400 1.300 0.500 0.500 0.400 0.500
## [13] 0.800 0.700 2.100 0.800 4.100 0.600 0.800 0.900 1.000 3.500 0.700 1.000
## [25] 0.500 0.600 1.000 0.500 1.000 1.000 0.635 0.635 2.000 1.000 1.000 1.500
## [37] 3.500 1.500 1.250 0.750 1.500 1.000 1.000 2.000 1.000 1.500 1.000 1.000
## [49] 1.500 1.500 1.700 0.500 0.800 1.400 1.500 1.000 1.300 0.800 1.400 1.300
## [61] 0.500 1.400 0.500 0.500 0.800 0.400 0.300 0.600 0.300 1.200 1.400 0.900
## [73] 1.100 0.600 0.400 0.800 1.000 1.200 0.600 5.715 7.620 5.080 3.810 3.810
## [85] 2.540 1.270 1.270 1.270 1.905
```

14. Just a note that I am printing the first 10 rows of each data frame, not necessarily the entire thing, to include in the answer key.

```
##    group_id paddle_id length_cm width_cm depth_cm spines insects damage
## 1         1         1      19.7     12.7      2.0      N       N   None
## 2         1         2      20.0     14.0      1.0      N       N   None
## 3         1         3      23.0     15.0      1.5      N       N   Some
## 4         1         4      22.0     11.0      1.0      N       N   None
## 5         1         5      16.5      9.0      0.8      N       N   None
## 6         1         6      19.0     11.5      0.9      N       Y   Some
## 7         1         7      27.2     15.5      1.4      N       N   Some
## 8         1         8      27.2     12.5      1.3      N       N   None
## 9         1         9      22.0     11.0      0.5      N       N   None
## 10        1        10      23.0     12.5      0.5      N       N   None
##    location    group_members temp_F              species  size
## 1     First DC, Hali Nahush       64 Opuntia ficus-indica Large
## 2    Second DC, Hali Nahush       64 Opuntia ficus-indica Large
```

```
## 3      Third DC, Hali Nahush      64 Opuntia ficus-indica Large
## 4     Fourth DC, Hali Nahush      64 Opuntia ficus-indica Large
## 5      Fifth DC, Hali Nahush      64 Opuntia ficus-indica Large
## 6     Fourth DC, Hali Nahush      64 Opuntia ficus-indica Large
## 7      Sixth DC, Hali Nahush      64 Opuntia ficus-indica Large
## 8    Seventh DC, Hali Nahush      64 Opuntia ficus-indica Large
## 9      Sixth DC, Hali Nahush      64 Opuntia ficus-indica Large
## 10   Seventh DC, Hali Nahush      64 Opuntia ficus-indica Large

##    group_id paddle_id length_cm width_cm depth_cm spines insects damage
## 51        6         1      29.0     27.0      2.5      Y       N   Most
## 52        6         2      32.0     22.5      2.5      Y       N   Some
## 53        6         3      28.5     21.0      3.0      Y       N   Some
## 54        6         4      28.0     20.0      1.5      Y       Y   Some
## 55        6         5      21.0     17.0      1.5      Y       Y   Some
## 56        6         6      32.0     30.0      3.5      Y       Y   Some
## 57        6         7      30.0     20.0      2.0      Y       Y   Some
## 58        6         8      30.0     23.0      1.5      Y       Y   Some
## 59        6         9      22.5     17.5      1.5      Y       Y   Some
## 60        6        10      37.5     29.0      3.0      Y       Y   Some
##    location       group_members temp_F             species   size
## 51    First Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 52   Second Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 53    Third Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 54   Fourth Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 55   Fourth Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 56   Second Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 57   Fourth Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 58   Fourth Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 59    Sixth Nancy, Katie, Abby      64 Opuntia engelmannii Medium
## 60    Third Nancy, Katie, Abby      64 Opuntia engelmannii Medium
```

15.

```
## [1] 11.16006
```

```
## [1] 20.86
```

16.

```
## [1] 3.682151
```

```
## [1] 4.266901
```