

Week6_DataStructureTransform_Pirates

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library(Rmarkdown)

Q1. Combine the data into a single dataframe. Complete all the following exercises from the dataframe

```
pirates=data.frame(Name=c("Astrid","Lea","Sarina","Remon","Letizia","Babice","Jonas","Wendy","Niveditha","Gioia"), Sex=c("F","F","F","M","F","F","M","F","F","F"), "Age"=c(30,25,25,29,22,22,35,19,32,21),Superhero=c("Batman","Superman","Batman","Spiderman","Batman","Antman","Batman","Superman","Maggott","Superman"), "Tattoos"=c(11,15,12,5,65,3,9,13,900,0))
View(pirates)
```

Q2. What is the median age of the 10 pirates?

```
median(pirates$Age)
```

```
## [1] 25
```

Q3. What was the mean age of female and male pirates separately?

```
subset(pirates, Sex=="F")
```

```
##      Name Sex Age Superhero Tattoos
## 1  Astrid  F  30   Batman      11
## 2    Lea  F  25  Superman      15
## 3  Sarina  F  25   Batman      12
## 5 Letizia  F  22   Batman      65
## 6  Babice  F  22   Antman       3
## 8   Wendy  F  19  Superman      13
## 9 Niveditha F  32  Maggott     900
## 10  Gioia  F  21  Superman       0
```

```
piratesfemale=subset(pirates,Sex=="F")  
  
MeanAgepiratesfemale=mean(piratesfemale$Age)  
  
MeanAgepiratesfemale
```

```
## [1] 24.5
```

```
piratesmale=subset(pirates,Sex=="M")  
piratesmale
```

```
##      Name Sex Age Superhero Tattoos  
## 4 Remon   M  29 Spiderman      5  
## 7 Jonas   M  35   Batman      9
```

```
MeanAgepiratesmale=mean(piratesmale$Age)  
MeanAgepiratesmale
```

```
## [1] 32
```

Q4. What was the most number of tattoos owned by a male pirate?

```
MaxTattoospiratesales=max(piratesmale$Tattoos)  
MaxTattoospiratesales
```

```
## [1] 9
```

Q5. What percent of pirates under the age of 32 were female?

```
piratesunder32=subset(pirates,Age<32)  
piratesunder32
```

```
##      Name Sex Age Superhero Tattoos
## 1  Astrid  F  30   Batman      11
## 2    Lea   F  25  Superman      15
## 3  Sarina  F  25   Batman      12
## 4   Remon  M  29 Spiderman       5
## 5 Letizia  F  22   Batman      65
## 6  Babice  F  22   Antman       3
## 8   Wendy  F  19  Superman      13
## 10 Gioia   F  21  Superman       0
```

```
femalepiratesunder32=subset(piratesunder32,Sex=="F")
femalepiratesunder32
```

```
##      Name Sex Age Superhero Tattoos
## 1  Astrid  F  30   Batman      11
## 2    Lea   F  25  Superman      15
## 3  Sarina  F  25   Batman      12
## 5 Letizia  F  22   Batman      65
## 6  Babice  F  22   Antman       3
## 8   Wendy  F  19  Superman      13
## 10 Gioia   F  21  Superman       0
```

```
percentpiratesunder32female=length(femalepiratesunder32$Sex)/length(piratesunder32$Sex)
percentpiratesunder32female
```

```
## [1] 0.875
```

Q6What percent of female pirates are under the age of 32?

```
piratesfemale=subset(pirates,Sex=="F")
piratesfemale
```

```
##      Name Sex Age Superhero Tattoos
## 1  Astrid  F  30   Batman      11
## 2    Lea   F  25  Superman      15
## 3  Sarina  F  25   Batman      12
## 5 Letizia  F  22   Batman      65
## 6  Babice  F  22   Antman       3
## 8   Wendy  F  19  Superman      13
## 9 Niveditha F  32  Maggott     900
## 10 Gioia   F  21  Superman       0
```

```
piratesfemaleunder32=subset(piratesfemale,Age<32)
piratesfemaleunder32
```

```
##      Name Sex Age Superhero Tattoos
## 1   Astrid  F  30   Batman      11
## 2     Lea   F  25  Superman      15
## 3   Sarina  F  25   Batman      12
## 5  Letizia  F  22   Batman      65
## 6   Babice  F  22   Antman       3
## 8    Wendy  F  19  Superman      13
## 10  Gioia   F  21  Superman       0
```

```
length(piratesfemale$Sex)
```

```
## [1] 8
```

```
length(piratesfemaleunder32$Sex)
```

```
## [1] 7
```

```
percentpiratesfemaleunder32=length(piratesfemaleunder32$Sex)/length(piratesfemale$Sex)
percentpiratesfemaleunder32
```

```
## [1] 0.875
```

Q7 Add a new column to the dataframe called `tattoos.per.year` which shows how many tattoos each pirate has for each year in their life.

```
pirates$tattoos.per.year=pirates$Tattoos/pirates$Age
```

```
#Or using "with"
```

```
pirates$tattoos.per.year=with(Tattoos/Age,data=pirates)
pirates$tattoos.per.year
```

```
## [1] 0.3666667 0.6000000 0.4800000 0.1724138 2.9545455 0.1363636
## [7] 0.2571429 0.6842105 28.1250000 0.0000000
```

Q8 Which pirate had the most number of tattoos per year?

```
subset(pirates,pirates$tattoos.per.year==max((pirates$tattoos.per.year)))
```

```
##      Name Sex Age Superhero Tattoos tattoos.per.year
## 9 Niveditha F 32  Maggott    900          28.125
```

Q9 What are the names of the female pirates whose favorite superhero is Superman?

```
subset(pirates,pirates$Superhero=="Superman"& pirates$Sex=="F")
```

```
##      Name Sex Age Superhero Tattoos tattoos.per.year
## 2  Lea F 25 Superman 15 0.6000000
## 8 Wendy F 19 Superman 13 0.6842105
## 10 Gioia F 21 Superman 0 0.0000000
```

Q10 What was the median number of tattoos of pirates over the age of 20 whose favorite superhero is Spiderman?

```
piratesover20=subset(pirates,pirates$Age>20)
piratesover20
```

```
##      Name Sex Age Superhero Tattoos tattoos.per.year
## 1 Astrid F 30 Batman 11 0.3666667
## 2 Lea F 25 Superman 15 0.6000000
## 3 Sarina F 25 Batman 12 0.4800000
## 4 Remon M 29 Spiderman 5 0.1724138
## 5 Letizia F 22 Batman 65 2.9545455
## 6 Babice F 22 Antman 3 0.1363636
## 7 Jonas M 35 Batman 9 0.2571429
## 9 Niveditha F 32 Maggott 900 28.1250000
## 10 Gioia F 21 Superman 0 0.0000000
```

```
piratesover20spiderman=subset(piratesover20,piratesover20$Superhero=="Spiderman")
piratesover20spiderman
```

```
##      Name Sex Age Superhero Tattoos tattoos.per.year
## 4 Remon M 29 Spiderman 5 0.1724138
```