

# HW1 template

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```
library(Hmisc)
library(DataExplorer)
library(palmerpenguins)
library(table1)
library(xtable)
din <- penguins_raw
summary(din)
colnames(din) <- unlist(lapply(colnames(din),function(x) gsub(" ","_",x)))
```

## Summary Staistic

```
#by(din, din$studyName, summary)
latex(describe(din), file = "", caption.placement = "top", title = "Penguins_Raw dataset")
```

17 Variables	din
	344 Observations

---

## studyName

n	missing	distinct
344	0	3

Value	PAL0708	PAL0809	PAL0910
Frequency	110	114	120
Proportion	0.320	0.331	0.349

## Sample\_Number

n	missing	distinct	Info	Mean	Gmd	.05	.10	.25	.50	.75	.90	.95
344	0	152	1	63.15	46.35	6.15	12.00	29.00	58.00	95.25	121.00	134.85

lowest : 1 2 3 4 5, highest: 148 149 150 151 152

## Species

n	missing	distinct
344	0	3

Value	Adelie Penguin (Pygoscelis adeliae)	Chinstrap penguin (Pygoscelis antarctica)
Frequency	152	68
Proportion	0.442	0.198

Value	Gentoo penguin (Pygoscelis papua)
Frequency	124
Proportion	0.360

## Region

n	missing	distinct	value
344	0	1	Anvers

Value	Anvers
Frequency	344
Proportion	1

## Island

n	missing	distinct
344	0	3

Value	Biscoe	Dream Torgersen
Frequency	168	124 52
Proportion	0.488	0.360 0.151

## Stage

n	missing	distinct	value
344	0	1	Adult, 1 Egg Stage

Value	Adult, 1 Egg Stage
Frequency	344
Proportion	1

## Individual\_ID

n	missing	distinct
344	0	190

lowest : N100A1 N100A2 N10A1 N10A2 N11A1 , highest: N98A2 N99A1 N99A2 N9A1 N9A2

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## Clutch\_Completion

n	missing	distinct
344	0	2

Value	No	Yes
Frequency	36	308
Proportion	0.105	0.895

---

## Date\_Egg



n	missing	distinct	Info	Mean	Gmd	.05	.10
344	0	50	0.999	2008-11-27	328	2007-11-12	2007-11-16
.25	.50	.75	.90	.95			
2007-11-28	2008-11-09	2009-11-16	2009-11-22	2009-11-26			

lowest : 2007-11-09 2007-11-10 2007-11-11 2007-11-12 2007-11-13  
highest: 2009-11-22 2009-11-23 2009-11-25 2009-11-27 2009-12-01

---

## Culmen\_Length\_(mm)



n	missing	distinct	Info	Mean	Gmd	.05	.10	.25	.50	.75	.90	.95
342	2	164	1	43.92	6.274	35.70	36.60	39.23	44.45	48.50	50.80	51.99

lowest : 32.1 33.1 33.5 34 34.1, highest: 55.1 55.8 55.9 58 59.6

---

## Culmen\_Depth\_(mm)



n	missing	distinct	Info	Mean	Gmd	.05	.10	.25	.50	.75	.90	.95
342	2	80	1	17.15	2.267	13.9	14.3	15.6	17.3	18.7	19.5	20.0

lowest : 13.1 13.2 13.3 13.4 13.5, highest: 20.7 20.8 21.1 21.2 21.5

---

## Flipper\_Length\_(mm)



n	missing	distinct	Info	Mean	Gmd	.05	.10	.25	.50	.75	.90	.95
342	2	55	0.999	200.9	16.03	181.0	185.0	190.0	197.0	213.0	220.9	225.0

lowest : 172 174 176 178 179, highest: 226 228 229 230 231

---

## Body\_Mass\_(g)



n	missing	distinct	Info	Mean	Gmd	.05	.10	.25	.50	.75	.90	.95
342	2	94	1	4202	911.8	3150	3300	3550	4050	4750	5400	5650

lowest : 2700 2850 2900 2925 2975, highest: 5850 5950 6000 6050 6300

## Sex

n missing distinct  
333 11 2

Value FEMALE MALE  
Frequency 165 168  
Proportion 0.495 0.505

## $\Delta_{15}N_{(o/oo)}$ :

n missing distinct Info Mean Gmd .05 .10 .25 .50 .75 .90 .95  
330 14 330 1 8.733 0.6323 7.897 8.047 8.300 8.652 9.172 9.491 9.689

lowest : 7.6322 7.63452 7.63884 7.68528 7.6887 , highest: 9.93727 9.98044 10.0202 10.0237 10.0254

## $\Delta_{13}C_{(o/oo)}$ :

n missing distinct Info Mean Gmd .05 .10 .25 .50 .75 .90 .95  
331 13 331 1 -25.69 0.9093 -26.79 -26.69 -26.32 -25.83 -25.06 -24.53 -24.36

lowest : -27.0185 -26.9547 -26.8964 -26.8648 -26.8635, highest: -24.1657 -24.1026 -23.9031 -23.8902 -23.7877

## Comments

n missing distinct  
54 290 10

lowest : Adult not sampled.  
highest: No blood sample obtained.

Adult not sampled. Nest never observed with full  
No delta15N data received from lab.

## table1

```
table1(~.-Date_Egg-Individual_ID-Sample_Number|studyName, data=din)
```

	PAL0708	PAL0809	PAL0910	Overall
	(N=110)	(N=114)	(N=120)	(N=344)
Species				
Adelie Penguin ( <i>Pygoscelis adeliae</i> )	50 (45.5%)	50 (43.9%)	52 (43.3%)	152 (44.2%)
Chinstrap penguin ( <i>Pygoscelis antarctica</i> )	26 (23.6%)	18 (15.8%)	24 (20.0%)	68 (19.8%)
Gentoo penguin ( <i>Pygoscelis papua</i> )	34 (30.9%)	46 (40.4%)	44 (36.7%)	124 (36.0%)
Region				

	PAL0708	PAL0809	PAL0910	Overall
Anvers	110 (100%)	114 (100%)	120 (100%)	344 (100%)
Island Biscoe	44 (40.0%)	64 (56.1%)	60 (50.0%)	168 (48.8%)
Dream	46 (41.8%)	34 (29.8%)	44 (36.7%)	124 (36.0%)
Torgersen Stage	20 (18.2%)	16 (14.0%)	16 (13.3%)	52 (15.1%)
Adult, 1 Egg Stage	110 (100%)	114 (100%)	120 (100%)	344 (100%)
Clutch_Completion				
No	16 (14.5%)	10 (8.8%)	10 (8.3%)	36 (10.5%)
Yes	94 (85.5%)	104 (91.2%)	110 (91.7%)	308 (89.5%)
Culmen_Length_(mm)				
Mean (SD)	43.7 (5.39)	43.5 (5.34)	44.5 (5.64)	43.9 (5.46)
Median [Min, Max]	44.1 [34.1, 59.6]	43.9 [33.1, 54.3]	44.9 [32.1, 55.9]	44.5 [32.1, 59.6]
Missing	1 (0.9%)	0 (0%)	1 (0.8%)	2 (0.6%)
Culmen_Depth_(mm)				
Mean (SD)	17.4 (2.15)	16.9 (1.98)	17.1 (1.79)	17.2 (1.97)
Median [Min, Max]	17.9 [13.1, 21.5]	17.0 [13.3, 21.1]	17.1 [13.7, 20.7]	17.3 [13.1, 21.5]
Missing	1 (0.9%)	0 (0%)	1 (0.8%)	2 (0.6%)
Flipper_Length_(mm)				
Mean (SD)	197 (13.9)	203 (13.9)	203 (13.7)	201 (14.1)
Median [Min, Max]	195 [172, 230]	200 [178, 231]	199 [176, 230]	197 [172, 231]
Missing	1 (0.9%)	0 (0%)	1 (0.8%)	2 (0.6%)
Body_Mass_(g)				
Mean (SD)	4120 (793)	4270 (789)	4210 (823)	4200 (802)
Median [Min, Max]	3900 [2900, 6300]	4200 [2700, 6000]	4000 [2900, 6000]	4050 [2700, 6300]
Missing	1 (0.9%)	0 (0%)	1 (0.8%)	2 (0.6%)
Sex				
FEMALE	51 (46.4%)	56 (49.1%)	58 (48.3%)	165 (48.0%)
MALE	52 (47.3%)	57 (50.0%)	59 (49.2%)	168 (48.8%)

	PAL0708	PAL0809	PAL0910	Overall
Missing	7 (6.4%)	1 (0.9%)	3 (2.5%)	11 (3.2%)
Delta_15_N_(o/oo)				
Mean (SD)	8.70 (0.634)	8.64 (0.464)	8.85 (0.539)	8.73 (0.552)
Median [Min, Max]	8.73 [7.63, 10.0]	8.56 [7.70, 10.0]	8.87 [7.89, 9.98]	8.65 [7.63, 10.0]
Missing	12 (10.9%)	0 (0%)	2 (1.7%)	14 (4.1%)
Delta_13_C_(o/oo)				
Mean (SD)	-25.1 (0.400)	-26.2 (0.765)	-25.7 (0.719)	-25.7 (0.794)
Median [Min, Max]	-25.1 [-25.7, -24.1]	-26.5 [-27.0, -23.9]	-26.0 [-26.8, -23.8]	-25.8 [-27.0, -23.8]
Missing	12 (10.9%)	0 (0%)	1 (0.8%)	13 (3.8%)
Comments				
Adult not sampled.	1 (0.9%)	0 (0%)	0 (0%)	1 (0.3%)
Nest never observed with full clutch.	15 (13.6%)	10 (8.8%)	9 (7.5%)	34 (9.9%)
Nest never observed with full clutch. Not enough blood for isotopes.	1 (0.9%)	0 (0%)	0 (0%)	1 (0.3%)
No blood sample obtained for sexing.	2 (1.8%)	0 (0%)	0 (0%)	2 (0.6%)
No blood sample obtained.	2 (1.8%)	0 (0%)	0 (0%)	2 (0.6%)
Not enough blood for isotopes.	7 (6.4%)	0 (0%)	0 (0%)	7 (2.0%)
Sexing primers did not amplify.	1 (0.9%)	1 (0.9%)	2 (1.7%)	4 (1.2%)
Sexing primers did not amplify.	1 (0.9%)	0 (0%)	0 (0%)	1 (0.3%)
Not enough blood for isotopes.				
Adult not sampled. Nest never observed with full clutch.	0 (0%)	0 (0%)	1 (0.8%)	1 (0.3%)
No delta15N data received from lab.	0 (0%)	0 (0%)	1 (0.8%)	1 (0.3%)
Missing	80 (72.7%)	103 (90.4%)	107 (89.2%)	290 (84.3%)

**DataExplorer plot\_missing**

```
DataExplorer::plot_missing(din)
```

