

**Title: "Homework 1"**  
**Author: "Hassan Fayyaz"**  
**Date: "9/1/2021"**

**#Q1:** Study group names (Hassan, Hugo, Adelia, & Mahrukh)

**#Q2:** Complete Hawks Diagnostic Test

**#Q3:** Probability of Rolling the 2 dice 20 times is given below

#Values for dice one: 6 2 3 6 2 5 5 1 4 1 5 4 2 4 1 6 6 5 2 6

#Probability of getting each number

# 1 is  $\frac{3}{20}$

# 2 is  $\frac{4}{20}$

# 3 is  $\frac{1}{20}$

# 4 is  $\frac{3}{20}$

# 5 is  $\frac{4}{20}$

# 6 is  $\frac{5}{20}$

#Values for dice two: 5 6 5 4 1 6 5 2 3 5 2 1 3 4 6 3 3 5 6 3

#Probability of getting each number

# 1 is 2/20

# 2 is 2/20

# 3 is 5/20

# 4 is 2/20

# 5 is 5/20

# 6 is 4/20

**#Q4 Replicate commands given in the lecture notes & tell something interesting about the date**

#Something interesting I learned from this data is that in New York Business degrees are the most popular and most people just get a high school diploma.

x <- 1:50

w <- 1 + sqrt(x)/2

example1 <- data.frame(x=x, y= x + rnorm(x)\*w)

attach(example1)

fm <- lm(y ~ x)

summary(fm)

```
lrf <- lowess(x, y)
```

```
plot(x, y)
```

```
lines(x, lrf$y)
```

```
abline(0, 1, lty=3)
```

```
abline(coef(fm))
```

```
detach()
```

```
rm(list = ls(all = TRUE))
```

```
setwd("C:/Users/hassa/Desktop/Fall 2021/2- Econometrics (B2000)/HW1")
```

```
load("acs2017_ny_data.RData")
```

```
#glimpse(acs2017_ny)try this later
```

```
acs2017_ny[1:10,1:7]
```

```
attach(acs2017_ny)
```

```
summary(acs2017_ny)
```

```
print(NN_obs <- length(AGE))
```

```
summary(AGE[female == 1])
```

```
summary(AGE[!female])
```

```
mean(AGE[female == 1])
```

```
sd(AGE[female == 1])
```

```
mean(AGE[!female])
```

```
sd(AGE[!female])
```

```
#Q5 S&P 500 Historical Data
```

```
#Currency in USD
```

```
# "Date"      "Open"      "High"      "Low"      "Close" "Adj Close" "Volume"
```

```
#Jan 31, 2020 3,282.33    3,282.33    3,214.68    3,225.52    3,225.52
4,527,830,000
```

```
#Jan 30, 2020 3,256.45    3,285.91    3,242.80    3,283.66    3,283.66
3,787,250,000
```

#Jan 29, 2020	3,289.46	3,293.47	3,271.89	3,273.40	3,273.40
3,584,500,000					
#Jan 28, 2020	3,255.35	3,285.78	3,253.22	3,276.24	3,276.24
3,526,720,000					
#Jan 27, 2020	3,247.16	3,258.85	3,234.50	3,243.63	3,243.63
3,823,100,000					
#Jan 24, 2020	3,333.10	3,333.18	3,281.53	3,295.47	3,295.47
3,707,130,000					
#Jan 23, 2020	3,315.77	3,326.88	3,301.87	3,325.54	3,325.54
3,764,860,000					
#Jan 22, 2020	3,330.02	3,337.77	3,320.04	3,321.75	3,321.75
3,619,850,000					
#Jan 21, 2020	3,321.03	3,329.79	3,316.61	3,320.79	3,320.79
4,105,340,000					
#Jan 17, 2020	3,323.66	3,329.88	3,318.86	3,329.62	3,329.62
3,698,170,000					
#Jan 16, 2020	3,302.97	3,317.11	3,302.82	3,316.81	3,316.81
3,535,080,000					
#Jan 15, 2020	3,282.27	3,298.66	3,280.69	3,289.29	3,289.29
3,716,840,000					
#Jan 14, 2020	3,285.35	3,294.25	3,277.19	3,283.15	3,283.15
3,665,130,000					
#Jan 13, 2020	3,271.13	3,288.13	3,268.43	3,288.13	3,288.13
3,456,380,000					
#Jan 10, 2020	3,281.81	3,282.99	3,260.86	3,265.35	3,265.35
3,212,970,000					

#Jan 09, 2020	3,266.03	3,275.58	3,263.67	3,274.70	3,274.70
3,638,390,000					
#Jan 08, 2020	3,238.59	3,267.07	3,236.67	3,253.05	3,253.05
3,720,890,000					
#Jan 07, 2020	3,241.86	3,244.91	3,232.43	3,237.18	3,237.18
3,420,380,000					
#Jan 06, 2020	3,217.55	3,246.84	3,214.64	3,246.28	3,246.28
3,674,070,000					
#Jan 03, 2020	3,226.36	3,246.15	3,222.34	3,234.85	3,234.85
3,461,290,000					
#Jan 02, 2020	3,244.67	3,258.14	3,235.53	3,257.85	3,257.85
3,458,250,000					

## **OUTPUT**

R version 4.1.1 (2021-08-10) -- "Kick Things"

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Platform: x86\_64-w64-mingw32/x64 (64-bit)

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Type 'q()' to quit R.

[Workspace loaded from C:/Users/hassa/Desktop/Fall 2021/2- Econometrics (B2000)/HW1/.RD  
ata]

```
> x <- 1:50
```

```
> w <- 1 + sqrt(x)/2
```

```
> example1 <- data.frame(x=x, y= x + rnorm(x)*w)
```

```
> attach(example1)
```

The following object is masked `_by_` .GlobalEnv:

x

```
> fm <- lm(y ~ x)
```

```
> summary(fm)
```

Call:

```
lm(formula = y ~ x)
```

Residuals:

Min	1Q	Median	3Q	Max
-7.8478	-2.1263	-0.2341	1.8727	7.9914

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	-1.49992	0.93579	-1.603	0.116
x	1.06159	0.03194	33.239	<2e-16 ***

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 3.259 on 48 degrees of freedom

Multiple R-squared: 0.9584, Adjusted R-squared: 0.9575

F-statistic: 1105 on 1 and 48 DF, p-value: < 2.2e-16

```
> lrf <- lowess(x, y)
> plot(x, y)
> lines(x, lrf$y)
> abline(0, 1, lty=3)
> abline(coef(fm))
> detach()
> rm(list = ls(all = TRUE))
> setwd("C:/Users/hassa/Desktop/Fall 2021/2- Econometrics (B2000)/HW1")
> load("acs2017_ny_data.RData")
> #glimpse(acs2017_ny)try this later
> acs2017_ny[1:10,1:7]
```

	AGE	female	educ_nohs	educ_hs	educ_somcoll	educ_college	educ_advdeg
1	72	1	0	0	0	0	1
2	72	0	0	0	0	0	1
3	31	0	0	0	0	1	0
4	28	1	0	0	0	1	0
5	54	0	0	0	0	0	1
6	45	1	0	1	0	0	0
7	84	1	0	0	1	0	0
8	71	0	0	0	0	1	0
9	68	1	0	0	1	0	0
10	37	1	1	0	0	0	0

```
> attach(acs2017_ny)
```

```
> summary(acs2017_ny)
```

AGE	female	educ_nohs	educ_hs	educ_somcoll	educ_college	educ_advdeg
-----	--------	-----------	---------	--------------	--------------	-------------



Min. : 0.00 Min. :0.0000 Min. :0.000 Min. :0.0000 Min. :0.000 Min. :0.0000 Min  
. :0.000  
1st Qu.:22.00 1st Qu.:0.0000 1st Qu.:0.000 1st Qu.:0.0000 1st Qu.:0.000 1st Qu.:0.0000  
1st Qu.:0.000  
Median :42.00 Median :1.0000 Median :0.000 Median :0.0000 Median :0.000 Median :0.0  
000 Median :0.000  
Mean :41.57 Mean :0.5156 Mean :0.271 Mean :0.2804 Mean :0.173 Mean :0.1567  
Mean :0.119  
3rd Qu.:60.00 3rd Qu.:1.0000 3rd Qu.:1.000 3rd Qu.:1.0000 3rd Qu.:0.000 3rd Qu.:0.0000  
3rd Qu.:0.000  
Max. :95.00 Max. :1.0000 Max. :1.000 Max. :1.0000 Max. :1.000 Max. :1.0000  
Max. :1.000

SCHOOL	EDUC	EDUCD
N/A : 5569 Grade 12	:55119 Regular high school diploma	:3568
No, not in school:144968	4 years of college :30802	Bachelor's degree :30
Yes, in school : 46048	5+ years of college :23385	1 or more years of college credit, no de gree:19947
Missing : 0	1 year of college :19947	Master's degree :17010
	Nursery school to grade 4:14240	Associate's degree, type not specified :14
	2 years of college :14065	Some college, but less than 1 year : 9086
(Other) :39027	(Other) :69986	
DEGFIELD	DEGFIELD	DEGFIELD
N/A :142398	N/A :142398	
Business : 9802	Psychology : 2926	
Education Administration and Teaching : 6708	Business Management and Administration: 2	
Social Sciences : 4836	Accounting : 2284	

Medical and Health Sciences and Services: 3919 General Education : 2238  
 Fine Arts : 3491 English Language and Literature : 2202  
 (Other) : 25431 (Other) : 42036

## DEGFIELD2

## DEGFIELD2D

N/A :190425 N/A :190425  
 Business : 972 Psychology : 284  
 Social Sciences : 853 Economics : 260

Education Administration and Teaching: 611 Political Science and Government  
 : 243

Fine Arts : 465 Business Management and Administration :  
 217

Communications : 352 French, German, Latin and Other Common Foreign Lan  
 guage Studies: 205

(Other) : 2907 (Other) : 4951

PUMA GQ OWNERSHP OWNERSHPD MORTGAGE OWNCO  
 ST RENT

Min. : 100 Min. :1.000 Min. :0.000 Min. : 0.00 Min. :0.000 Min. : 0 Min. : 0  
 1st Qu.:1500 1st Qu.:1.000 1st Qu.:1.000 1st Qu.:12.00 1st Qu.:0.000 1st Qu.: 1208 1st  
 Qu.: 0

Median :3201 Median :1.000 Median :1.000 Median :13.00 Median :1.000 Median : 2891  
 Median : 0

Mean :2713 Mean :1.148 Mean :1.266 Mean :14.95 Mean :1.453 Mean :38582 M  
 ean : 393

3rd Qu.:3902 3rd Qu.:1.000 3rd Qu.:2.000 3rd Qu.:22.00 3rd Qu.:3.000 3rd Qu.:99999 3  
 rd Qu.: 630

Max. :4114 Max. :5.000 Max. :2.000 Max. :22.00 Max. :4.000 Max. :99999 Max.  
 :3800

COSTELEC COSTGAS COSTWATR COSTFUEL HHINCOME FOO  
 DSTMP LINGISOL

Min. : 0 Min. : 0 Min. : 0 Min. : 0 Min. : -11800 Min. :1.000 Min. :0.000

1st Qu.: 960 1st Qu.: 840 1st Qu.: 320 1st Qu.:9993 1st Qu.: 41600 1st Qu.:1.000 1st Qu.:1.000

Median :1560 Median :2400 Median :1400 Median :9993 Median : 81700 Median :1.000 Median :1.000

Mean :2311 Mean :5032 Mean :4836 Mean :7935 Mean :114902 Mean :1.147 Mean :1.002

3rd Qu.:2520 3rd Qu.:9993 3rd Qu.:9993 3rd Qu.:9993 3rd Qu.: 140900 3rd Qu.:1.000 3rd Qu.:1.000

Max. :9997 Max. :9997 Max. :9997 Max. :9997 Max. :2030000 Max. :2.000 Max. :2.000

NA's :10630

ROOMS BUILTYR2 UNITSSTR FUELHEAT SSMC FAMSIZ  
E NCHILD

Min. :0.000 Min. :0.000 Min. :0.00 Min. :0.000 Min. :0.00000 Min. :1.000 Min. :0.0000

1st Qu.: 4.000 1st Qu.: 1.000 1st Qu.: 3.00 1st Qu.:2.000 1st Qu.:0.00000 1st Qu.: 2.000 1st Qu.:0.0000

Median : 6.000 Median : 3.000 Median : 3.00 Median :2.000 Median :0.00000 Median : 3.000 Median :0.0000

Mean : 5.887 Mean : 3.711 Mean : 4.39 Mean :2.959 Mean :0.01102 Mean : 3.087 Mean :0.5009

3rd Qu.: 8.000 3rd Qu.: 5.000 3rd Qu.: 6.00 3rd Qu.:4.000 3rd Qu.:0.00000 3rd Qu.: 4.000 3rd Qu.:1.0000

Max. :16.000 Max. :22.000 Max. :10.00 Max. :9.000 Max. :2.00000 Max. :19.000 Max. :9.0000

NCHLT5 RELATE RELATED MARST RACE RACED  
HISPAN

Min. :0.00000 Min. :1.000 Min. :101.0 Min. :1.000 Min. :1.00 Min. :100 Min. :0.0000

1st Qu.:0.00000 1st Qu.: 1.000 1st Qu.: 101.0 1st Qu.:1.000 1st Qu.:1.00 1st Qu.:100 1st Qu.:0.0000  
 Median :0.00000 Median : 2.000 Median : 201.0 Median :5.000 Median :1.00 Median :10  
 0 Median :0.0000  
 Mean :0.08441 Mean : 3.307 Mean : 335.6 Mean :3.742 Mean :2.03 Mean :205  
 Mean :0.4153  
 3rd Qu.:0.00000 3rd Qu.: 3.000 3rd Qu.: 301.0 3rd Qu.:6.000 3rd Qu.:2.00 3rd Qu.:200 3rd Qu.:0.0000  
 Max. :5.00000 Max. :13.000 Max. :1301.0 Max. :6.000 Max. :9.00 Max. :990 Max. :4.0000

HISPAND	BPL	BPLD	ANCESTR1
Min. : 0.00	New York :128517	New York :128517	Not Reported :32021
1st Qu.: 0.00	West Indies : 8481	China : 4116	Italian :20577
Median : 0.00	China : 4964	Dominican Republic: 3517	Irish, various subheads,:16388
Mean : 44.75	SOUTH AMERICA: 4957	Pennsylvania : 3303	German :1278
3rd Qu.: 0.00	India : 3476	New Jersey : 3127	African-American : 9559
Max. :498.00	Pennsylvania : 3303	Puerto Rico : 2272	United States : 8209
(Other) : 42887	(Other) : 51733	(Other) :97050	
ANCESTR1D	ANCESTR2	ANCESTR2D	
Not Reported :32021	Not Reported:141487	Not Reported :141487	
Italian (1990-2000, ACS, PRCS) :20577	German : 9476	German (1990-2000, ACS, PRCS) : 9441	
Irish :15651	Irish : 9238	Irish : 8809	
German (1990-2000, ACS/PRCS) :12605	English : 4895	English : 48	
African-American (1990-2000, ACS, PRCS): 9559	Italian : 4531	Italian (1990-2000, ACS, PRCS): 4531	
United States : 8209	Polish : 3113	Polish : 3113	
(Other) :97963	(Other) : 23845	(Other) : 24309	

CITIZEN	YRSUSA1	HCOVANY	HCOVPRIV	SEX	EMPSTAT
EMPSTATD					
Min. :0.0000	Min. : 0.000	Min. :1.000	Min. :1.000	Male : 95222	Min. :0.000
: 0.00					
1st Qu.:0.0000	1st Qu.: 0.000	1st Qu.:2.000	1st Qu.:1.000	Female:101363	1st Qu.:1.000
1st Qu.:10.00					
Median :0.0000	Median : 0.000	Median :2.000	Median :2.000		Median :1.000
Median :10.00					
Mean :0.4793	Mean : 5.377	Mean :1.951	Mean :1.691		Mean :1.514
:15.16					
3rd Qu.:0.0000	3rd Qu.: 0.000	3rd Qu.:2.000	3rd Qu.:2.000		3rd Qu.:3.000
3rd Qu.:30.00					
Max. :3.0000	Max. :92.000	Max. :2.000	Max. :2.000		Max. :3.000
Max. :30.00					

LABFORCE	OCC	IND	CLASSWKR	CLASSWKRD	WKSWORK
K2	UHRSWORK				
Min. :0.000	0 : 79987	0 : 79987	Min. :0.000	Min. : 0.00	Min. :0.000
:0.00					
1st Qu.:1.000	2310 : 3494	7860 : 9025	1st Qu.:0.000	1st Qu.: 0.00	1st Qu.:0.000
1st Qu.: 0.00					
Median :2.000	5700 : 3235	8680 : 6354	Median :2.000	Median :22.00	Median :1.000
Median :12.00					
Mean :1.331	430 : 3025	770 : 6279	Mean :1.116	Mean :13.03	Mean :2.701
Mean :19.77					
3rd Qu.:2.000	4720 : 2666	8190 : 5873	3rd Qu.:2.000	3rd Qu.:22.00	3rd Qu.:6.000
3rd Qu.:40.00					
Max. :2.000	4760 : 2563	7870 : 4041	Max. :2.000	Max. :29.00	Max. :6.000
Max. :99.00					

(Other):101615 (Other):85026

INCTOT	FTOTINC	INCWAGE	POVERTY	MIGRATE1	MIGRA
TE1D	MIGPLAC1				
Min. : -7300	Min. : -11800	Min. : 0	Min. : 0.0	Min. : 0.000	Min. : 0.00
: 0.000					
1st Qu.: 8000	1st Qu.: 35550	1st Qu.: 0	1st Qu.:159.0	1st Qu.:1.000	1st Qu.:10.00
1st Qu.: 0.000					
Median : 25000	Median : 74000	Median : 10000	Median :351.0	Median :1.000	Median : 10.00
Median : 0.000					
Mean : 45245	Mean : 107111	Mean : 33796	Mean :318.7	Mean :1.122	Mean :11.51
Mean : 6.184					
3rd Qu.: 56500	3rd Qu.: 132438	3rd Qu.: 47000	3rd Qu.:501.0	3rd Qu.:1.000	3rd Qu.:10.00
3rd Qu.: 0.000					
Max. :1563000	Max. :2030000	Max. :638000	Max. :501.0	Max. :4.000	Max. :40.00
Max. :900.000					
NA's :31129	NA's :10817	NA's :33427			
MIGCOUNTY1	MIGPUMA1	VETSTAT	VETSTATD	PWPUMA00	
TRANWORK	TRANTIME				
Min. : 0.000	Min. : 0	Min. :0.0000	Min. : 0.000	Min. : 0	Min. : 0.000
Min. : 0.00					
1st Qu.: 0.000	1st Qu.: 0	1st Qu.:1.0000	1st Qu.:11.000	1st Qu.: 0	1st Qu.: 0.000
1st Qu.: 0.00					
Median : 0.000	Median : 0	Median :1.0000	Median :11.000	Median : 0	Median : 0.00
Median : 0.00					
Mean : 4.117	Mean : 277	Mean :0.8621	Mean : 9.412	Mean :1255	Mean : 9.725
Mean : 14.75					
3rd Qu.: 0.000	3rd Qu.: 0	3rd Qu.:1.0000	3rd Qu.:11.000	3rd Qu.: 3100	3rd Qu.:10.000
3rd Qu.: 20.00					
Max. :810.000	Max. :70100	Max. :2.0000	Max. :20.000	Max. :59300	Max. :70.00
Max. :138.00					

DEPARTS	in_NYC	in_Bronx	in_Manhattan	in_StatenI	in_Brooklyn	in_Queens
Min. : 0.0	Min. :0.0000	Min. :0.0000	Min. :0.00000	Min. :0.00000	Min. :0.000	Min. :0.0000
1st Qu.: 0.0	1st Qu.:0.0000	1st Qu.:0.0000	1st Qu.:0.00000	1st Qu.:0.00000	1st Qu.:0.00	1st Qu.:0.0000
Median : 0.0	Median :0.0000	Median :0.0000	Median :0.00000	Median :0.00000	Median :0.000	Median :0.0000
Mean : 373.3	Mean :0.3615	Mean :0.0538	Mean :0.04981	Mean :0.02084	Mean :0.126	Mean :0.1111
3rd Qu.: 732.0	3rd Qu.:1.0000	3rd Qu.:0.0000	3rd Qu.:0.00000	3rd Qu.:0.00000	3rd Qu.:0.000	3rd Qu.:0.0000
Max. :2345.0	Max. :1.0000	Max. :1.0000	Max. :1.00000	Max. :1.00000	Max. :1.000	Max. :1.0000

  

in_Westchester	in_Nassau	Hispanic	Hisp_Mex	Hisp_PR	Hisp_Cuban
Min. :0.00000	Min. :0.00000	Min. :0.0000	Min. :0.00000	Min. :0.0000	Min. :0.00000
1st Qu.:0.00000	1st Qu.:0.00000	1st Qu.:0.0000	1st Qu.:0.00000	1st Qu.:0.0000	1st Qu.:0.000000
Median :0.00000	Median :0.00000	Median :0.0000	Median :0.00000	Median :0.0000	Median :0.000000
Mean :0.04413	Mean :0.07032	Mean :0.1387	Mean :0.01626	Mean :0.0436	Mean :0.003403
3rd Qu.:0.00000	3rd Qu.:0.00000	3rd Qu.:0.0000	3rd Qu.:0.00000	3rd Qu.:0.0000	3rd Qu.:0.000000
Max. :1.00000	Max. :1.00000	Max. :1.0000	Max. :1.00000	Max. :1.0000	Max. :1.000000

  

Hisp_DomR	white	AfAm	Amindian	Asian	race_oth	unmarried
-----------	-------	------	----------	-------	----------	-----------

Min. :0.00000 Min. :0.0000 Min. :0.000 Min. :0.0000000 Min. :0.00000 Min. :0.00  
 00 Min. :0.00  
 1st Qu.:0.00000 1st Qu.:0.0000 1st Qu.:0.000 1st Qu.:0.0000000 1st Qu.:0.00000 1st Qu.:0  
 .0000 1st Qu.:0.00  
 Median :0.00000 Median :1.0000 Median :0.000 Median :0.0000000 Median :0.00000 Med  
 ian :0.00000 Median :0.00  
 Mean :0.02827 Mean :0.6997 Mean :0.125 Mean :0.003779 Mean :0.08656 Mean  
 :0.1324 Mean :0.45  
 3rd Qu.:0.00000 3rd Qu.:1.0000 3rd Qu.:0.000 3rd Qu.:0.0000000 3rd Qu.:0.00000 3rd Qu.  
 :0.0000 3rd Qu.:1.00  
 Max. :1.00000 Max. :1.0000 Max. :1.000 Max. :1.0000000 Max. :1.00000 Max. :1.  
 0000 Max. :1.00

veteran has\_AnyHealthIns has\_PvtHealthIns Commute\_car Commute\_bus Commu  
 te\_subway

Min. :0.00000 Min. :0.0000 Min. :0.0000 Min. :0.0000 Min. :0.00000 Min. :0.000  
 00  
 1st Qu.:0.00000 1st Qu.:1.0000 1st Qu.:0.0000 1st Qu.:0.0000 1st Qu.:0.00000 1st Qu.:0.  
 00000  
 Median :0.00000 Median :1.0000 Median :1.0000 Median :0.0000 Median :0.00000 Medi  
 an :0.00000  
 Mean :0.04443 Mean :0.9513 Mean :0.6906 Mean :0.2997 Mean :0.02162 Mean :  
 0.07468  
 3rd Qu.:0.00000 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.:1.0000 3rd Qu.:0.00000 3rd Qu.:  
 0.00000  
 Max. :1.00000 Max. :1.0000 Max. :1.0000 Max. :1.0000 Max. :1.00000 Max. :1.0  
 0000

Commute\_rail Commute\_other below\_povertyline below\_150poverty below\_200poverty  
 foodstamps



```

Min. :0.00000 Min. :0.00000 Min. :0.000 Min. :0.0000 Min. :0.0000 Min. :0.000
0
1st Qu.:0.00000 1st Qu.:0.00000 1st Qu.:0.000 1st Qu.:0.0000 1st Qu.:0.0000 1st Qu.:0.
0000
Median :0.00000 Median :0.00000 Median :0.000 Median :0.0000 Median :0.0000 Medi
an :0.0000
Mean :0.01332 Mean :0.05506 Mean :0.122 Mean :0.1965 Mean :0.2676 Mean :
0.1465
3rd Qu.:0.00000 3rd Qu.:0.00000 3rd Qu.:0.000 3rd Qu.:0.0000 3rd Qu.:1.0000 3rd Qu.:
0.0000
Max. :1.00000 Max. :1.00000 Max. :1.000 Max. :1.0000 Max. :1.0000 Max. :1.0
000

```

```
> print(NN_obs <- length(AGE))
```

```
[1] 196585
```

```
> summary(AGE[female == 1])
```

```

Min. 1st Qu. Median Mean 3rd Qu. Max.
0.00 23.00 44.00 42.72 61.00 95.00

```

```
> summary(AGE[!female])
```

```

Min. 1st Qu. Median Mean 3rd Qu. Max.
0.00 21.00 40.00 40.35 59.00 95.00

```

```
> mean(AGE[female == 1])
```

```
[1] 42.71629
```

```
> sd(AGE[female == 1])
```

```
[1] 23.72012
```

```
> mean(AGE[!female])
```

```
[1] 40.35398
```

```
> sd(AGE[!female])
```

```
[1] 23.1098
```

