PROBABILITY AND STATISTICS PROJECT

TOPIC OF PROJECT: HEART DISEASE PREDICTION

SOFTWARE USED:
RStudio

TEAM MEMBERS

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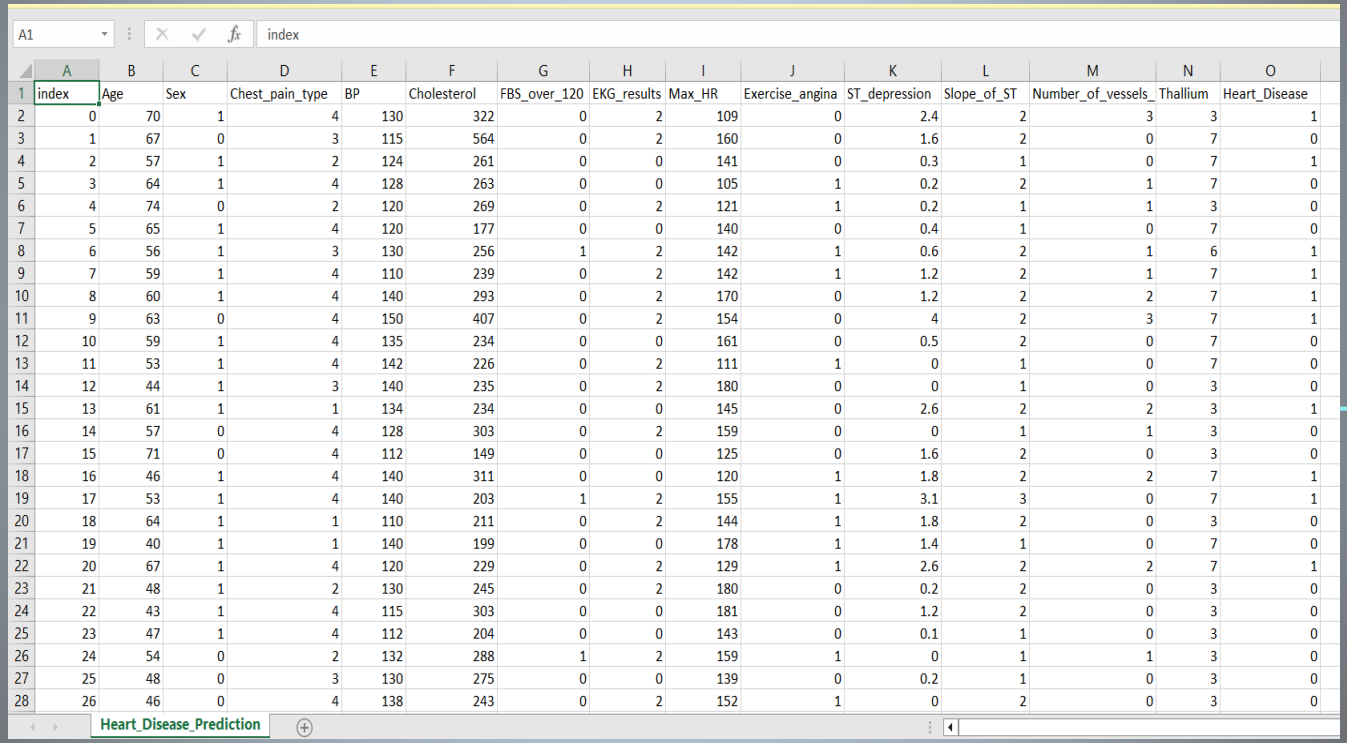
LINK OF UPLOADED DATASET TAKEN FROM KAGGLE PASTED BELOW

https://drive.google.com/file/d/1tdbow15rjD-0egVGK4IrgBsk0810Z_Xn/view?usp=sharing

SCREENSHOT OF DATASET



A1 | index

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	index	Age	Sex	Chest_pain_type	BP	Cholesterol	FBS_over_120	EKG_results	Max_HR	Exercise_angina	ST_depression	Slope_of_ST	Number_of_vessels_	Thallium	Heart_Disease
2	0	70	1	4	130	322	0	2	109	0	2.4	2	3	3	1
3	1	67	0	3	115	564	0	2	160	0	1.6	2	0	7	0
4	2	57	1	2	124	261	0	0	141	0	0.3	1	0	7	1
5	3	64	1	4	128	263	0	0	105	1	0.2	2	1	7	0
6	4	74	0	2	120	269	0	2	121	1	0.2	1	1	3	0
7	5	65	1	4	120	177	0	0	140	0	0.4	1	0	7	0
8	6	56	1	3	130	256	1	2	142	1	0.6	2	1	6	1
9	7	59	1	4	110	239	0	2	142	1	1.2	2	1	7	1
10	8	60	1	4	140	293	0	2	170	0	1.2	2	2	7	1
11	9	63	0	4	150	407	0	2	154	0	4	2	3	7	1
12	10	59	1	4	135	234	0	0	161	0	0.5	2	0	7	0
13	11	53	1	4	142	226	0	2	111	1	0	1	0	7	0
14	12	44	1	3	140	235	0	2	180	0	0	1	0	3	0
15	13	61	1	1	134	234	0	0	145	0	2.6	2	2	3	1
16	14	57	0	4	128	303	0	2	159	0	0	1	1	3	0
17	15	71	0	4	112	149	0	0	125	0	1.6	2	0	3	0
18	16	46	1	4	140	311	0	0	120	1	1.8	2	2	7	1
19	17	53	1	4	140	203	1	2	155	1	3.1	3	0	7	1
20	18	64	1	1	110	211	0	2	144	1	1.8	2	0	3	0
21	19	40	1	1	140	199	0	0	178	1	1.4	1	0	7	0
22	20	67	1	4	120	229	0	2	129	1	2.6	2	2	7	1
23	21	48	1	2	130	245	0	2	180	0	0.2	2	0	3	0
24	22	43	1	4	115	303	0	0	181	0	1.2	2	0	3	0
25	23	47	1	4	112	204	0	0	143	0	0.1	1	0	3	0
26	24	54	0	2	132	288	1	2	159	1	0	1	1	3	0
27	25	48	0	3	130	275	0	0	139	0	0.2	1	0	3	0
28	26	46	0	4	138	243	0	2	152	1	0	2	0	3	0

Heart_Disease_Prediction

01

BASIC STATISTICAL ANALYSIS

MEAN

```
attach(Heart_Disease_Prediction)
mean(Age)
[1] 54.43333
mean(Chest_pain_type)
[1] 3.174074
mean(BP)
[1] 131.3444
mean(Cholesterol)
[1] 249.6593
mean(FBS_over_120)
[1] 0.1481481
mean(Max_HR)
[1] 149.6778
mean(ST_depression)
[1] 1.05
mean(Slope_of_ST)
[1] 1.585185
mean(Thallium)
[1] 4.696296
```

MEDIAN

- median(Age)
  [1] 55
- median(BP)
  [1] 130
- median(Cholesterol)
  [1] 245
- median(Max_HR)
  [1] 153.5
- median(ST_depression)
  [1] 0.8
- median(Thallium)
  [1] 3

MODE

```
➢  my_mode <- function(x) {                    # Create mode function
+     unique_x <- unique(x)
+     tabulate_x <- tabulate(match(x, unique_x))
+     unique_x[tabulate_x == max(tabulate_x)]
+ }
➢  my_mode(Age)
[1] 54
➢  my_mode(Sex)
[1] 1
➢  print("This defines that number of men is not equal to number of women")
[1] "This defines that number of men is not equal to number of women“
➢  my_mode(Chest_pain_type)
[1] 4
print("Most of the people have the chest pain of 4th type")
[1] "Most of the people have the chest pain of 4th type“
my_mode(BP)
[1] 120
➢print("120 is the most repeated among the recorded BP in the dataset")
  [1] "120 is the most repeated among the recorded BP in the dataset“
➢my_mode(Cholesterol)
 [1] 234
```

MODE (CONTINUED)

```
➢  print("234 is the most repeated value of cholestrol recorded among the
   patients")
[1] "234 is the most repeated value of cholestrol recorded among the patients“
➢  my_mode(Max_HR)
[1] 162
➢  my_mode(Thallium)
[1] 3
➢  print("3 units of thallium is present in most of the patients body")
[1] "3 units of thallium is present in most of the patients body">
my_mode(Heart_Disease)
[1] 0
➢  print("Number of Patients having Heart Disease is less than number of
   patients not suffering from any Heart Disease")
[1] "Number of Patients having Heart Disease is less than number of patients not
suffering from any Heart Disease"
```

SUMMARY

- summary(Age)

```
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  29.00   48.00   55.00   54.43   61.00   77.00
```

- summary(Sex)

```
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  0.0000  0.0000  1.0000  0.6778  1.0000  1.0000
```

- summary(Chest_pain_type)

```
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  1.000   3.000   3.000   3.174   4.000   4.000
```

- summary(BP)

```
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  94.0   120.0   130.0   131.3   140.0   200.0
```

- summary(Cholesterol)

```
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  126.0   213.0   245.0   249.7   280.0   564.0
```

SUMMARY CONTINUED

- summary(FBS_over_120)

```
Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
0.0000  0.0000  0.0000  0.1481  0.0000  1.0000
```

- summary(EKG_results)

```
Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
0.000   0.000   2.000   1.022   2.000   2.000
```

- summary(Max_HR)

```
Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
71.0   133.0   153.5   149.7   166.0   202.0
```

- summary(Exercise_angina)

```
Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
0.0000  0.0000  0.0000  0.3296  1.0000  1.0000
```

SUMMARY CONTINUED

- summary(ST_depression)

```
   Length     Class      Mode
        1 character character
```

- summary(Slope_of_ST)

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  1.000   1.000   2.000   1.585   2.000   3.000
```

- summary(Number_of_vessels_fluro)

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 0.0000  0.0000  0.0000  0.6704  1.0000  3.0000
```

- summary(Thallium)

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  3.000   3.000   3.000   4.696   7.000   7.000
```

VARIANCE & STANDARD DEVIATION

- var(Age)

[1] 82.97509

- sd(Age)

[1] 9.109067

- var(BP)

[1] 319.0371

- sd(BP)

[1] 17.86161

- var(Cholesterol)

[1] 2671.467

- sd(Cholesterol)

[1] 51.68624

- var(Max_HR)

[1] 536.6504

- sd(Max_HR)
- [1] 23.16572

COVARIANCE

- cov1 = cov(Age, BP)
- Cov1
  [1] 44.42639
- cov2 = cov(Sex, BP)
- Cov2
  [1] -0.5242875
- cov3 = cov(BP, Cholesterol)
- Cov3
  [1] 159.7312
- cov(Age, Heart_Disease)
  [1] 0.9628253
- cov(Sex, Heart_Disease)
  [1] 0.06939281
- cov(Chest_pain_type, Heart_Disease)
  [1] 0.1974391
- cov(BP, Heart_Disease)
  [1] 1.38166
- cov(Cholesterol, Heart_Disease)

COVARIANCE CONTINUED

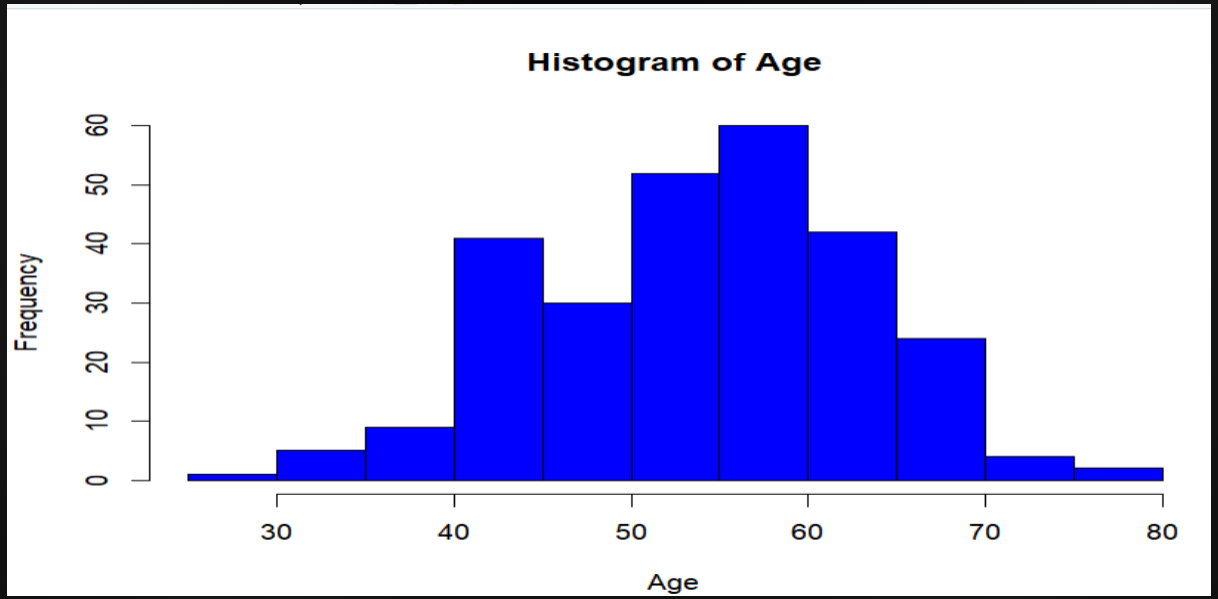
[1] 3.036762

- cov(FBS_over_120, Heart_Disease)
  [1] -0.002891367
- cov(EKG_results, Heart_Disease)
  [1] 0.09045849
- cov(Max_HR, Heart_Disease)
  [1] -4.826518
- cov(Exercise_angina, Heart_Disease)
  [1] 0.09830648
- cov(ST_depression, Heart_Disease)
  [1] 0.23829
- cov(Slope_of_ST, Heart_Disease)
  [1] 0.1032631
- cov(Number_of_vessels_fluro, Heart_Disease)
  [1] 0.2139612
- cov(Thallium, Heart_Disease)
  [1] 0.5072284

02 DATA VISUALIZATION

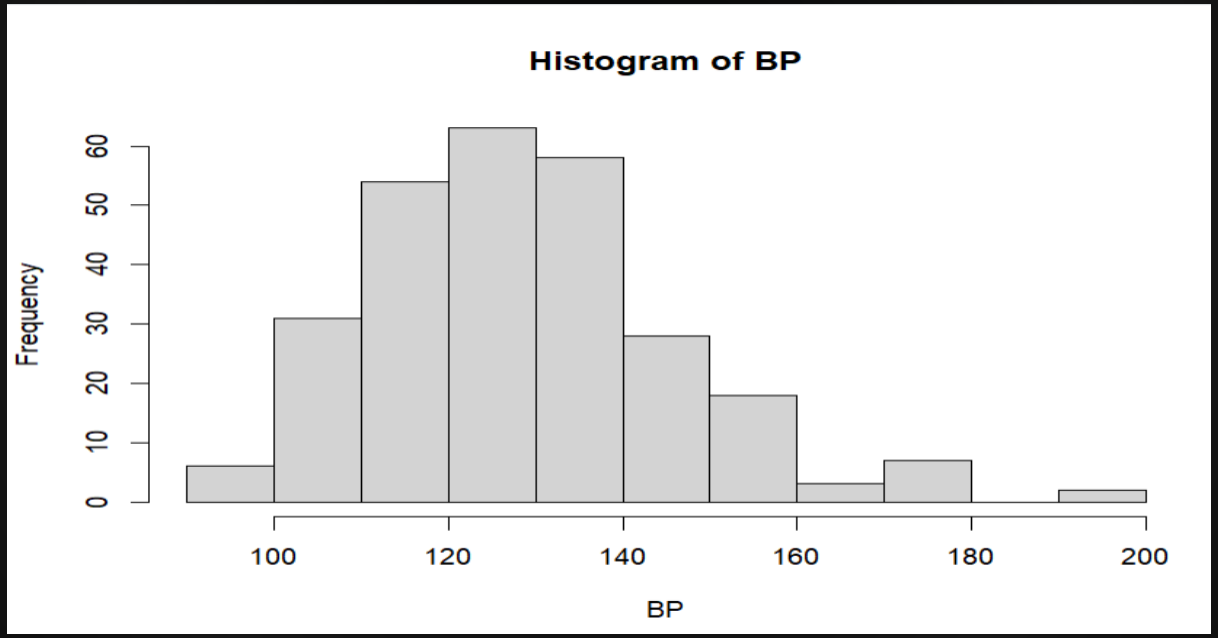
HISTOGRAM

- > hist(Age, col = ‘blue’)



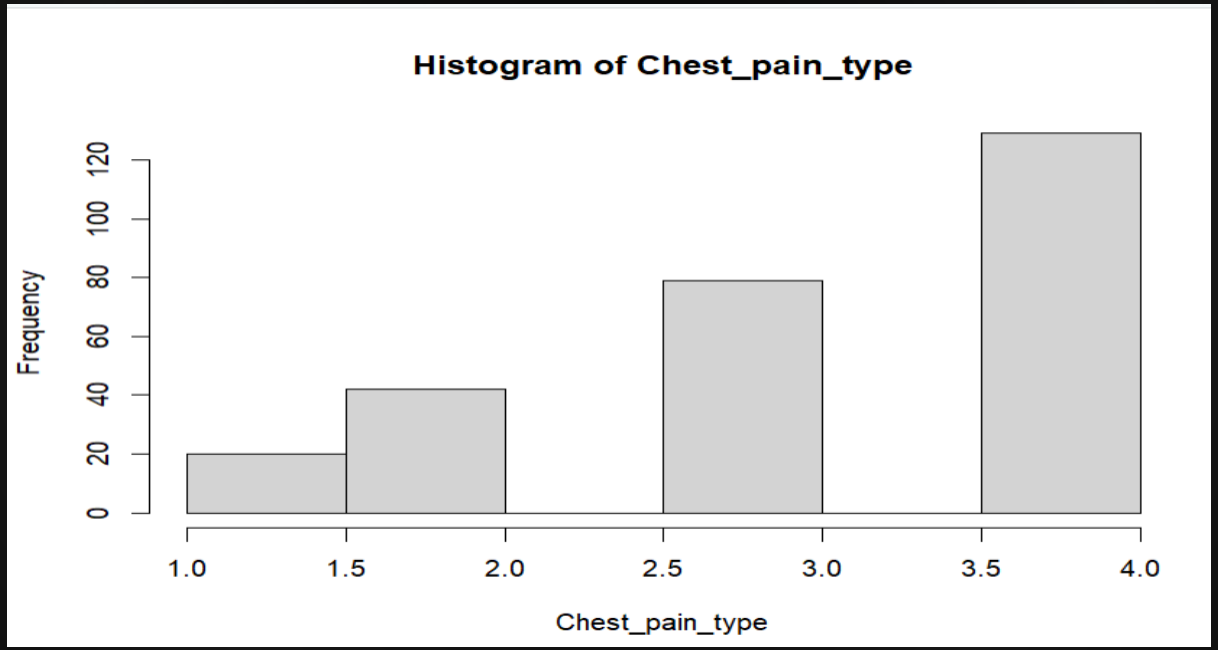
HISTOGRAM CONTINUED

> hist(BP)



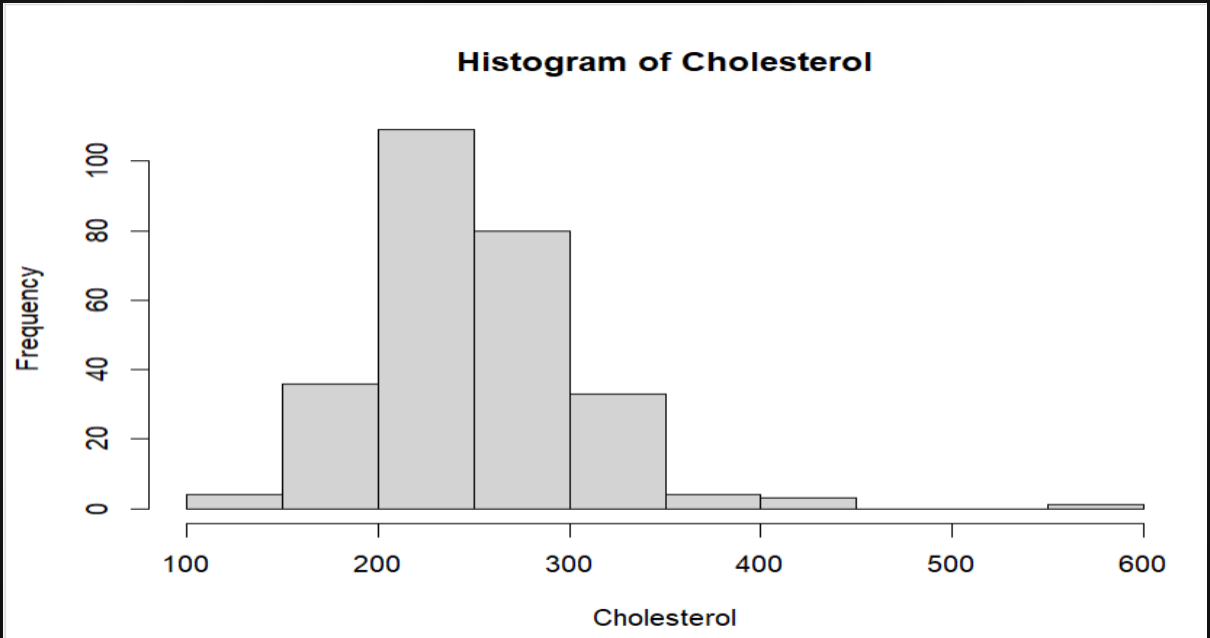
HISTOGRAM CONTINUED

- > hist(Chest_pain_type)



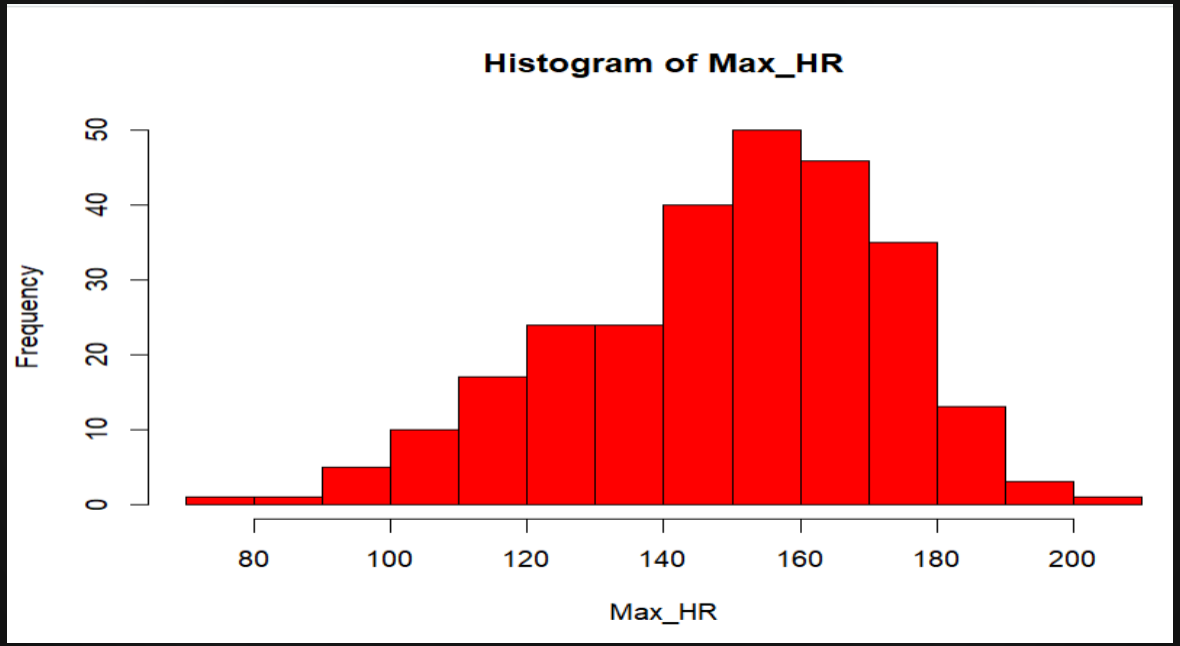
HISTOGRAM CONTINUED

- > hist(Cholesterol)



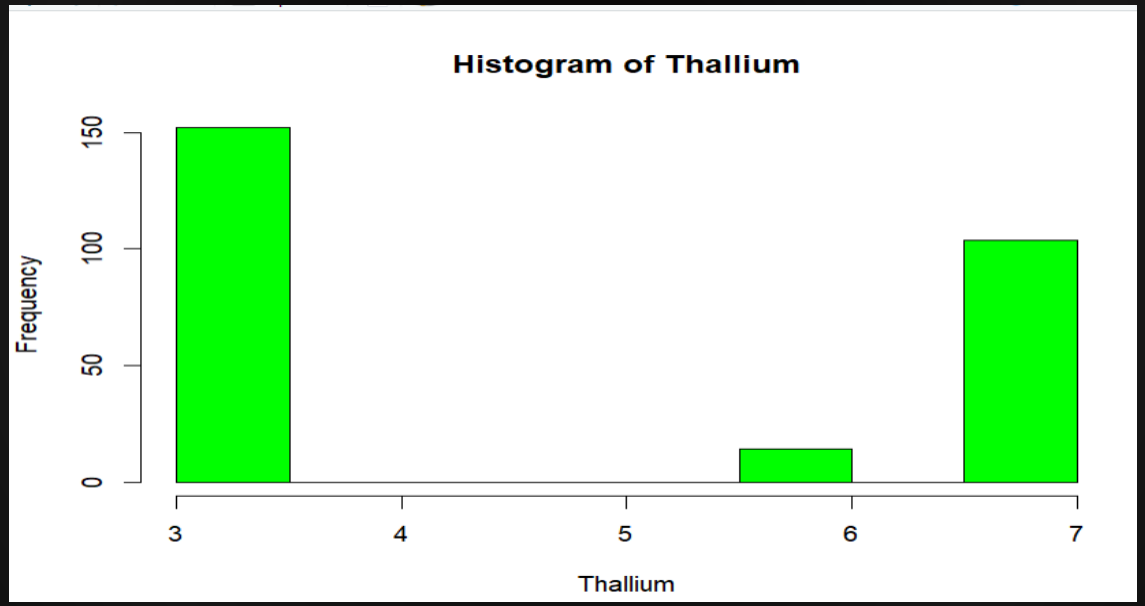
HISTOGRAM CONTINUED

- `> hist(Max_HR, col = 'red')`



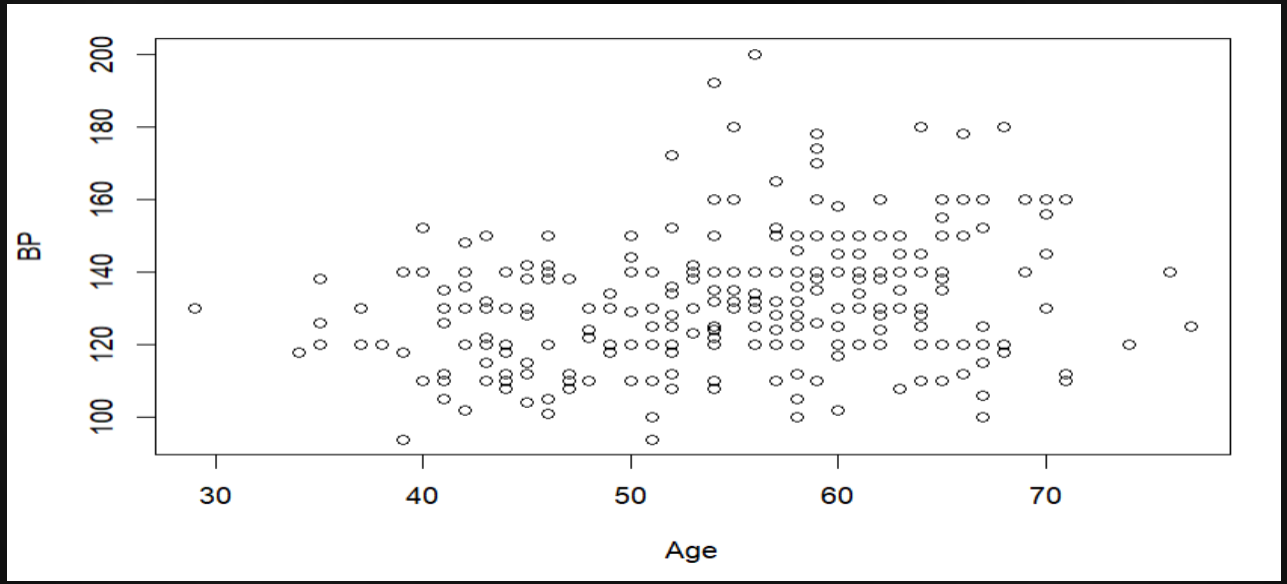
HISTOGRAM CONTINUED

- > hist(Thallium, col = 'green')



PLOT

- `> plot(Age,BP)`



CORRELATION 03

- cor.test(Age, Heart_Disease)

```
Pearson's product-moment correlation
data:  Age and Heart_Disease
t = 3.557, df = 268, p-value = 0.0004435
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 0.09536339 0.32349863
sample estimates:
      cor
0.2123222
```

- cor.test(Sex, Heart_Disease)

```
        Pearson's product-moment correlation
data:  Sex and Heart_Disease
t = 5.1054, df = 268, p-value = 6.267e-07
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 0.1849169 0.4027815
sample estimates:
      cor
0.2977208
```

- cor.test(Chest_pain_type, Heart_Disease)
  - Pearson's product-moment correlation
  - data: Chest_pain_type and Heart_Disease
  - t = 7.5203, df = 268, p-value = 8.262e-13
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - 0.3136922 0.5113315
  - sample estimates:
  - cor
  - 0.4174362

- cor.test(BP, Heart_Disease)
  - Pearson's product-moment correlation
  - data: BP and Heart_Disease
  - t = 2.575, df = 268, p-value = 0.01056
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - 0.03668728 0.26975488
  - sample estimates:
  - cor
  - 0.1553827

- cor.test(Cholesterol, Heart_Disease)
  - Pearson's product-moment correlation
  - data: Cholesterol and Heart_Disease
  - t = 1.9457, df = 268, p-value = 0.05274
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - -0.001374728 0.234098256
  - sample estimates:
  - cor
  - 0.1180205

- cor.test(FBS_over_120, Heart_Disease)
  - Pearson's product-moment correlation
  - data: FBS_over_120 and Heart_Disease
  - t = -0.26719, df = 268, p-value = 0.7895
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - -0.1354309 0.1032582
  - sample estimates:
  - cor
  - -0.01631883

- cor.test(EKG_results, Heart_Disease)
  - Pearson's product-moment correlation
  - data: EKG_results and Heart_Disease
  - t = 3.0316, df = 268, p-value = 0.00267
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - 0.06410841 0.29505301
  - sample estimates:
  - cor
  - 0.1820908

- cor.test(Max_HR, Heart_Disease)
  - Pearson's product-moment correlation
  - data: Max_HR and Heart_Disease
  - t = -7.5438, df = 268, p-value = 7.12e-13
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - -0.5122953 -0.3148691
  - sample estimates:
  - cor
  - -0.418514

- cor.test(Exercise_angina, Heart_Disease)
  - Pearson's product-moment correlation
  - data: Exercise_angina and Heart_Disease
  - t = 7.5611, df = 268, p-value = 6.383e-13
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - 0.3157306 0.5130005
  - sample estimates:
  - cor
  - 0.4193027

- cor.test(ST_depression, Heart_Disease)
  - Pearson's product-moment correlation
  - data: ST_depression and Heart_Disease
  - t = 7.5319, df = 268, p-value = 7.678e-13
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - 0.3142722 0.5118066
  - sample estimates:
  - Cor
  - 0.4179674

- cor.test(Slope_of_ST, Heart_Disease)
  - Pearson's product-moment correlation
  - data: Slope_of_ST and Heart_Disease
  - t = 5.8718, df = 268, p-value = 1.272e-08
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - 0.2274052 0.4392872
  - sample estimates:
  - cor
  - 0.337616

- cor.test(Number_of_vessels_fluro, Heart_Disease)
  - Pearson's product-moment correlation
  - data: Number_of_vessels_fluro and Heart_Disease
  - t = 8.3725, df = 268, p-value = 3.173e-15
  - alternative hypothesis: true correlation is not equal to 0
  - 95 percent confidence interval:
  - 0.3552718 0.5450837
  - sample estimates:
  - cor
  - 0.4553365

- cor.test(Thallium, Heart_Disease)
- Pearson's product-moment correlation
- data: Thallium and Heart_Disease
- t = 10.099, df = 268, p-value < 2.2e-16
- alternative hypothesis: true correlation is not equal to 0
- 95 percent confidence interval:
- 0.4327681 0.6063908
- sample estimates:
- cor
- 0.5250203

Multiple Linear Regression

04

- fit1 = lm(Heart_Disease~BP + Age + Sex + Thallium)
- fit1

- Call:
- lm(formula = Heart_Disease ~ BP + Age + Sex + Thallium)

- Coefficients:
- (Intercept) BP Age Sex Thallium
  -0.900582 0.001716 0.008852 0.152465 0.113803

- fit1 = lm(BP ~ Age + Sex + Chest_pain_type + FBS_over_120 + EKG_results + Max_HR + Exercise_angina + ST_depression + Slope_of_ST + Number_of_vessels_fluro + Thallium)
- fit1

```
Call:
lm(formula = BP ~ Age + Sex + Chest_pain_type + FBS_over_120 + EKG_results + Max_HR +
    Exercise_angina + ST_depression + Slope_of_ST + Number_of_vessels_fluro + Thallium)

Coefficients:
(Intercept)                 Age                 Sex
83.8148                  0.5267              -4.1680
Chest_pain_type     FBS_over_120       EKG_results
-1.7281                  5.9246               1.3346
Max_HR              Exercise_angina       ST_depression
0.1108                   2.7272               3.1902
Slope_of_ST  Number_of_vessels_fluro     Thallium
-0.5168              -1.1262              1.2081
reached 'max' / getOption("max.print") -- omitted 204 rows ]
```

Logistic Regression

05

- fit2 = glm(Heart_Disease ~ Age + Sex + Chest_pain_type + BP + Cholesterol + FBS_over_120 + EKG_results + Max_HR + Exercise_angina + ST_depression + Slope_of_ST + Number_of_vessels_fluro + Thallium, data = data, family = binomial(link = 'logit'))
- summary(fit2)

Call:
glm(formula = Heart_Disease ~ Age + Sex + Chest_pain_type + BP + Cholesterol + FBS_over_120 + EKG_results + Max_HR + Exercise_angina + ST_depression + Slope_of_ST + Number_of_vessels_fluro + Thallium, family = binomial(link = "logit"), data = data)

Deviance Residuals:

Min	1Q	Median	3Q	Max
-2.6123	-0.5120	-0.1739	0.4023	2.4210

Coefficients:

	Estimate	Std. Error	z value	Pr(>|z|)	
(Intercept)	-8.446417	3.088097	-2.735	0.00624	**
Age	-0.017477	0.025720	-0.680	0.49681	
Sex	1.542109	0.540762	2.852	0.00435	**

- Chest_pain_type 0.700895 0.215280 3.256 0.00113 **
- BP 0.025216 0.011450 2.202 0.02765 *
- Cholesterol 0.007228 0.004077 1.773 0.07628 .
- FBS_over_120 -0.794811 0.574662 -1.383 0.16664
- EKG_results 0.301668 0.197838 1.525 0.12730
- Max_HR -0.021045 0.010579 -1.989 0.04666 *
- Exercise_angina 0.829386 0.431091 1.924 0.05436 .
- ST_depression 0.343690 0.227068 1.514 0.13013
- Slope_of_ST 0.442276 0.391077 1.131 0.25809
- Number_of_vessels_fluro 1.165271 0.269283 4.327 1.51e-05 ***
- Thallium 0.341384 0.106066 3.219 0.00129 **
- ---
- Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

- (Dispersion parameter for binomial family taken to be 1)

- Null deviance: 370.96 on 269 degrees of freedom
- Residual deviance: 179.60 on 256 degrees of freedom
- AIC: 207.6

- Number of Fisher Scoring iterations: 6

- > predict_regression = predict(fit2, data, type = 'response')
- > predict_regression
- 1 2 3 4 5 6 7
- 0.991998619 0.627598571 0.179790533 0.954226458 0.144175093 0.287328023 0.786154238
- 8 9 10 11 12 13 14
- 0.934964448 0.971845881 0.995878630 0.505348858 0.892430729 0.113024750 0.470539572
- 15 16 17 18 19 20 21
- 0.208746590 0.040909142 0.995507390 0.893626135 0.109723983 0.176905386 0.990297874
- 22 23 24 25 26 27 28
- 0.075866594 0.222628921 0.106010724 0.065691610 0.035331466 0.255772844 0.042899619
- 29 30 31 32 33 34 35
- 0.750430000 0.039501130 0.751857127 0.803520602 0.010753215 0.992479545 0.921771902
- 36 37 38 39 40 41 42

- 0.944402505 0.954274292 0.143356380 0.066178379 0.108771869 0.417657619 0.017074168
- 43 44 45 46 47 48 49
- 0.125400301 0.027075692 0.539786437 0.049383376 0.829665235 0.238294968 0.979949088
- 50 51 52 53 54 55 56
- 0.981066996 0.932240375 0.007371878 0.178814730 0.040073054 0.021324125 0.010087727
- 57 58 59 60 61 62 63
- 0.932523472 0.011790340 0.319069745 0.861428506 0.186275875 0.616813096 0.047361787
- 64 65 66 67 68 69 70
- 0.006059465 0.241091018 0.983049517 0.356493518 0.128239900 0.087324301 0.053363024

RStudio

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Heart_Disease_Prediction

Filter

EKG_results	Max_HR	Exercise_angina	ST_depression	Slope_of_ST	Number_of_vessels_fluro	Thallium	Heart_Disease
2	202	0	0.0	1	0	3	(
0	192	0	0.7	1	0	3	(
2	174	0	0.0	1	0	3	(
0	130	1	1.6	2	0	7	'
2	156	1	0.0	1	0	7	'
0	182	0	1.4	1	0	3	(
0	170	0	0.0	1	0	3	(
0	187	0	3.5	3	0	3	(
0	182	1	3.8	2	0	7	'
0	179	0	0.0	1	0	3	(
0	140	0	1.2	2	0	7	'
2	182	0	0.0	1	0	3	(
0	178	1	1.4	1	0	7	(
0	181	0	0.0	1	0	7	'

Showing 1 to 14 of 270 entries, 15 total columns

Console | Terminal | Background Jobs

R 4.2.2 · ~/

```
> fit1 = lm(BP ~ Age + Sex + Chest_pain_type + FBS_over_120 + EKG_results + Max_HR + Exercise_angina + ST_depression + Slope_of_ST + Number_of_vessels_fluro + Thallium)
> fit1

Call:
lm(formula = BP ~ Age + Sex + Chest_pain_type + FBS_over_120 +
    EKG_results + Max_HR + Exercise_angina + ST_depression +
    Slope_of_ST + Number_of_vessels_fluro + Thallium)

Coefficients:
            (Intercept)                      Age                      Sex
                83.8148                   0.5267                  -4.1680
       Chest_pain_type             FBS_over_120              EKG_results
                -1.7281                   5.9246                   1.3346
                Max_HR          Exercise_angina          ST_depression
                 0.1108                   2.7272                   3.1902
          Slope_of_ST  Number_of_vessels_fluro                 Thallium
                -0.5168                  -1.1262                   1.2081
```

Environment | History | Connections | Tutorial

Import Dataset | 154 MiB | List

R | Global Environment

Data

fit1	List of 12
Heart_Disease_Predic...	270 obs. of 15 variables

Functions

mode	function ()
my_mode	function (x)

Files | Plots | Packages | Help | Viewer | Presentation

New Folder | New Blank File | Delete | Rename | More

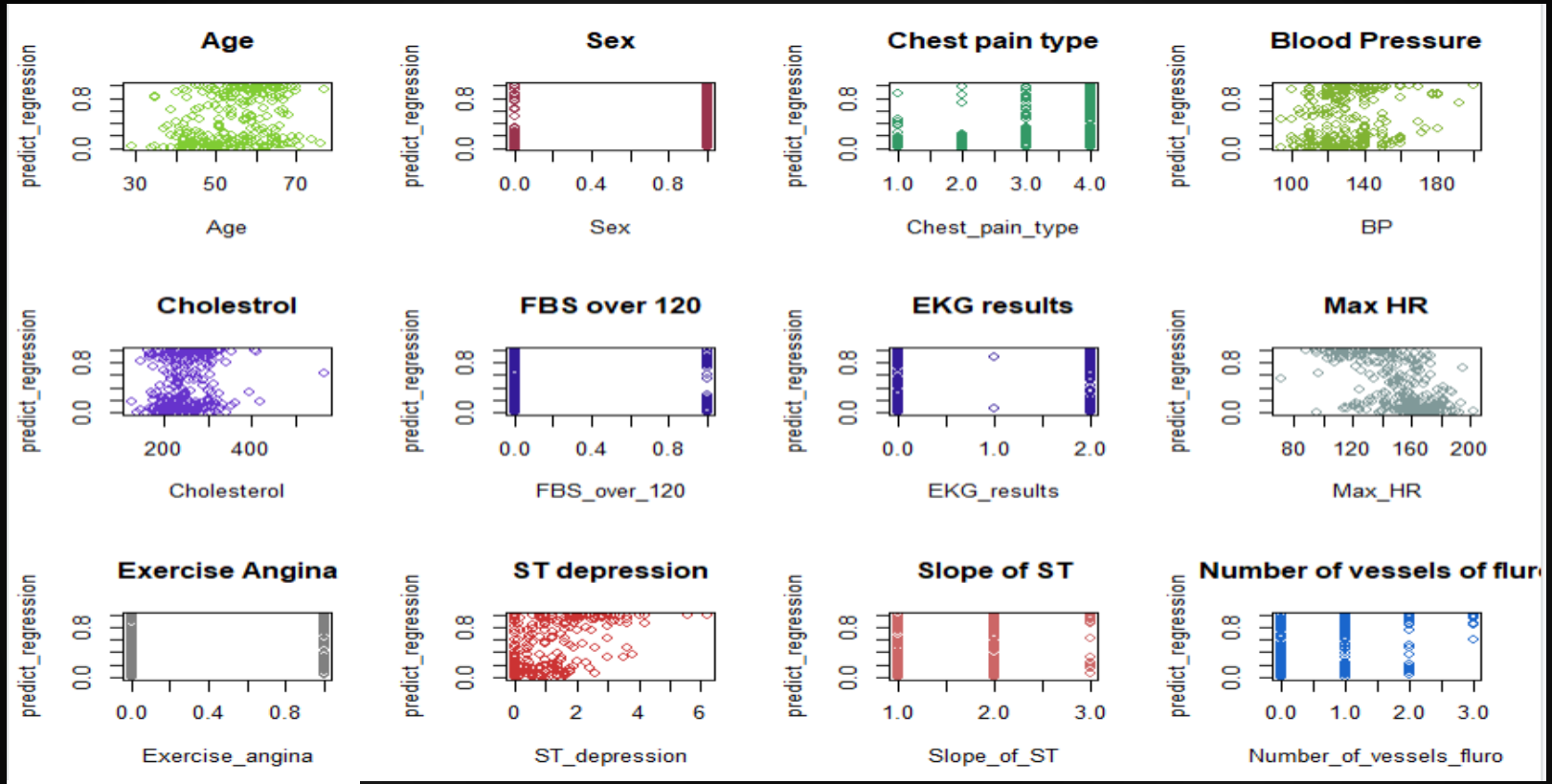
D: > NINAD SUGANDHI > ENGINEERING 4th SEMESTER > PROBABILITY AND STATISTICS LAB

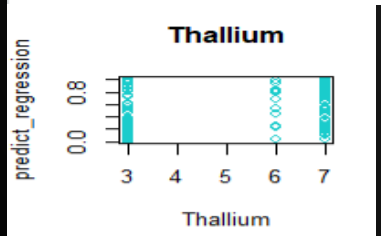
Name	Size	Modified
..		
~$LAB PROJECT.docx	162 B	Apr 2, 2023, 10:47 AM
dropout-ratio-2012-2015.csv	8.5 KB	Mar 22, 2023, 9:45 AM
Heart_Disease_Prediction.csv	10.9 KB	Mar 22, 2023, 11:45 PM
LAB - 1 (SUGANDHI NINAD NILESH - 21BCE5724).pdf	51.7 KB	Jan 19, 2023, 9:52 PM
MATHS LAB SYLLABUS.pdf	696.7 KB	Dec 13, 2022, 8:22 PM
placement.csv	12.6 KB	Mar 22, 2023, 10:43 AM
R LAB - 1 (21BCE5724-SUGANDHI NINAD NILESH).docx	744.2 KB	Jan 19, 2023, 9:56 PM
R LAB - 2 (SUGANDHI NINAD NILESH - 21BCE5724).docx	65.7 KB	Feb 2, 2023, 9:06 AM
R LAB - 3 (21BCE5724 - SUGANDHI NINAD NILESH).docx	286.3 KB	Feb 16, 2023, 11:51 PM
R LAB - 4 (21BCE5724 - SUGANDHI NINAD NILESH).docx	217.2 KB	Feb 26, 2023, 9:18 PM
Ztest	196 B	Feb 23, 2023, 2:11 PM
R LAB PROJECT.docx	44.2 KB	Apr 2, 2023, 12:50 PM
~WRD0000.tmp	0 B	Jan 1, 1970, 5:30 AM

Prediction Using Plots

06

- par(mfrow = c(3,4))
- plot(Age, predict_regression, main = "Age", col = rgb(red = 0.5, blue = 0.2, green = 0.8))
- plot(Sex, predict_regression, main = "Sex", col = rgb(red = 0.6, blue = 0.3, green = 0.2))
- plot(Chest_pain_type, predict_regression, main = "Chest pain type", col = rgb(red = 0.2, blue = 0.4, green = 0.6))
- plot(BP, predict_regression, main = "Blood Pressure", col = rgb(red = 0.5, blue = 0.2, green = 0.7))
- plot(Cholesterol, predict_regression, main = "Cholestrol", col = rgb(red = 0.4, blue = 0.8, green = 0.2))
- plot(FBS_over_120, predict_regression, main = "FBS over 120", col = rgb(red = 0.2, blue = 0.6, green = 0.1))
- plot(EKG_results, predict_regression, main = "EKG results", col = rgb(red = 0.2, blue = 0.6, green = 0.1))
- plot(Max_HR, predict_regression, main = "Max HR", col = rgb(red = 0.5, blue = 0.6, green = 0.6))
- plot(Exercise_angina, predict_regression, main = "Exercise Angina", col = rgb(red = 0.5, blue = 0.5, green = 0.5))
- plot(ST_depression, predict_regression, main = "ST depression", col = rgb(red = 0.8, blue = 0.2, green = 0.2))
- plot(Number_of_vessels_fluro, predict_regression, main = "Number of vessels of fluro", col = rgb(red = 0.1, blue = 0.8, green = 0.4))
- plot(Thallium, predict_regression, main = "Thallium", col = rgb(red = 0.1, blue = 0.8, green = 0.8))


Age
predict_regression
0.0
0.8
30
50
70
Age
Sex
0.0
0.4
0.8
Sex
Chest pain type
1.0
2.0
3.0
4.0
Chest_pain_type
Blood Pressure
100
140
180
BP
Cholestrol
200
400
Cholesterol
FBS over 120
FBS_over_120
EKG results
EKG_results
Max HR
80
120
160
200
Max_HR
Exercise Angina
Exercise_angina
ST depression
0
2
4
6
ST_depression
Slope of ST
Slope_of_ST
Number of vessels of flur
Number_of_vessels_fluro


Thallium
predict_regression
0.0
0.8
3
4
5
6
7
Thallium

Thanks