AguerosR\_Assignment1.doc

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Q1: Load the data set

df<-read.csv("https://stats.idre.ucla.edu/stat/data/rdm/patient\_pt2\_dm.csv"  
 , header=TRUE)

Q2: Display the summary of the data

summary(df)

## hospital hospid docid dis\_date   
## Length:111 Min. :3 Length:111 Length:111   
## Class :character 1st Qu.:3 Class :character Class :character   
## Mode :character Median :3 Mode :character Mode :character   
## Mean :3   
## 3rd Qu.:3   
## Max. :3   
## sex age test1 test2   
## Length:111 Min. :37.23 Min. :-99.000 Min. :-99.000   
## Class :character 1st Qu.:47.64 1st Qu.: 1.505 1st Qu.: 2.512   
## Mode :character Median :52.40 Median : 3.157 Median : 4.003   
## Mean :52.47 Mean : -5.035 Mean : -4.089   
## 3rd Qu.:57.32 3rd Qu.: 5.590 3rd Qu.: 6.542   
## Max. :70.27 Max. : 23.728 Max. : 19.946   
## pain tumorsize co2 wound   
## Min. :2.000 Min. : 38.67 Min. :-98.000 Min. :3.000   
## 1st Qu.:4.000 1st Qu.: 62.26 1st Qu.: 1.523 1st Qu.:5.000   
## Median :5.000 Median : 68.04 Median : 1.605 Median :6.000   
## Mean :5.405 Mean : 69.40 Mean : -4.654 Mean :5.739   
## 3rd Qu.:6.000 3rd Qu.: 78.63 3rd Qu.: 1.705 3rd Qu.:7.000   
## Max. :9.000 Max. :103.13 Max. : 2.047 Max. :9.000   
## mobility ntumors remission lungcapacity   
## Min. :3.000 Min. :0.000 Min. :0.0000 Min. :-99.0000   
## 1st Qu.:5.000 1st Qu.:1.500 1st Qu.:0.0000 1st Qu.: 0.5702   
## Median :6.000 Median :3.000 Median :0.0000 Median : 0.7779   
## Mean :5.883 Mean :3.495 Mean :0.2252 Mean :-17.1279   
## 3rd Qu.:6.000 3rd Qu.:5.000 3rd Qu.:0.0000 3rd Qu.: 0.8762   
## Max. :9.000 Max. :9.000 Max. :1.0000 Max. : 0.9885   
## married familyhx smokinghx cancerstage   
## Min. :0.0000 Length:111 Length:111 Length:111   
## 1st Qu.:0.0000 Class :character Class :character Class :character   
## Median :1.0000 Mode :character Mode :character Mode :character   
## Mean :0.6036   
## 3rd Qu.:1.0000   
## Max. :1.0000   
## lengthofstay wbc rbc bmi   
## Min. :3.000 Length:111 Min. :4.178 Min. :18.68   
## 1st Qu.:5.000 Class :character 1st Qu.:4.860 1st Qu.:23.80   
## Median :5.000 Mode :character Median :5.040 Median :26.16   
## Mean :5.486 Mean :5.016 Mean :27.81   
## 3rd Qu.:6.000 3rd Qu.:5.193 3rd Qu.:31.00   
## Max. :9.000 Max. :5.660 Max. :53.30

Q3: Display the first six observations

head(df)

## hospital hospid docid dis\_date sex age test1 test2 pain  
## 1 Cedars-Sinai 3 3-227 1-Oct-09 male 54.20139 3.868794 1.368258 6  
## 2 Cedars-Sinai 3 3-227 18-Feb-10 female 55.07469 7.755598 4.495320 8  
## 3 Cedars-Sinai 3 3-227 30-Jun-09 female 58.05810 5.729780 -99.000000 7  
## 4 Cedars-Sinai 3 3-227 15-Nov-09 female 51.51580 8.579062 4.606732 9  
## 5 Cedars-Sinai 3 3-227 17-Feb-10 female 54.62732 6.698068 2.641949 4  
## 6 Cedars-Sinai 3 3-227 22-Dec-09 male 49.08573 2.873844 5.457510 5  
## tumorsize co2 wound mobility ntumors remission lungcapacity married  
## 1 69.77004 1.525533 5 5 4 0 0.9108813 1  
## 2 68.03432 1.693319 4 5 2 0 0.9298442 1  
## 3 65.06084 1.558663 4 6 7 0 0.7964214 0  
## 4 71.43866 -98.000000 5 6 2 0 -98.0000000 0  
## 5 69.52477 1.680759 5 6 3 0 0.9471640 1  
## 6 89.74382 1.888896 6 5 7 0 -99.0000000 1  
## familyhx smokinghx cancerstage lengthofstay wbc rbc bmi  
## 1 no never I 4 6422.606934 5.394183 32.24669  
## 2 no never II 6 5562.57373 4.792162 25.07808  
## 3 -99 -99 IV 7 4994.978027 4.934001 28.88207  
## 4 no never II 6 5368.994629 4.440117 20.15032  
## 5 yes former II 5 6668.87793 5.001358 25.71963  
## 6 yes current II 5 5668.280762 4.953966 35.10331

Q4: Display observations where the patients’ ages are greater than 50.

sub <- subset(df, df$age>50)  
sub

## hospital hospid docid dis\_date sex age test1  
## 1 Cedars-Sinai 3 3-227 1-Oct-09 male 54.20139 3.8687944  
## 2 Cedars-Sinai 3 3-227 18-Feb-10 female 55.07469 7.7555981  
## 3 Cedars-Sinai 3 3-227 30-Jun-09 female 58.05810 5.7297797  
## 4 Cedars-Sinai 3 3-227 15-Nov-09 female 51.51580 8.5790625  
## 5 Cedars-Sinai 3 3-227 17-Feb-10 female 54.62732 6.6980677  
## 7 Cedars-Sinai 3 3-227 15-Apr-10 female 59.83295 9.6037865  
## 9 Cedars-Sinai 3 3-241 12-Oct-10 male 65.62528 6.0786171  
## 10 Cedars-Sinai 3 3-241 30-Oct-09 male 57.36703 6.2057605  
## 11 Cedars-Sinai 3 3-241 27-Nov-08 male 58.74738 3.2251856  
## 12 Cedars-Sinai 3 3-241 28-Jun-09 female 53.26855 7.3987150  
## 13 Cedars-Sinai 3 3-241 24-Oct-09 male 50.70414 -99.0000000  
## 14 Cedars-Sinai 3 3-241 15-Jan-11 female 53.64131 4.8487868  
## 17 Cedars-Sinai 3 3-256 16-Mar-09 female 58.30156 1.9552577  
## 19 Cedars-Sinai 3 3-256 5-Mar-10 female 57.88105 5.4023323  
## 20 Cedars-Sinai 3 3-256 16-Aug-10 female 52.59681 3.9000664  
## 21 Cedars-Sinai 3 3-256 19-Jan-10 male 57.27674 11.8026110  
## 25 Cedars-Sinai 3 3-265 23-Sep-10 female 63.96707 5.5893731  
## 27 Cedars-Sinai 3 3-265 7-Nov-09 male 50.36649 -99.0000000  
## 28 Cedars-Sinai 3 3-265 12-Apr-10 female 53.13244 11.6227440  
## 29 Cedars-Sinai 3 3-278 8-Feb-10 female 54.37292 0.7389396  
## 30 Cedars-Sinai 3 3-278 28-May-10 female 55.67900 2.0900562  
## 32 Cedars-Sinai 3 3-278 29-Apr-10 male 52.99583 2.6182258  
## 36 Cedars-Sinai 3 3-287 7-Aug-09 male 57.67365 1.2613995  
## 37 Cedars-Sinai 3 3-287 15-Jul-09 male 50.91338 1.3960426  
## 38 Cedars-Sinai 3 3-297 25-Mar-10 male 70.26617 2.3136928  
## 39 Cedars-Sinai 3 3-297 21-Jun-10 male 54.22091 -99.0000000  
## 40 Cedars-Sinai 3 3-297 20-Dec-09 female 50.36287 4.5629950  
## 41 Cedars-Sinai 3 3-297 2-Mar-10 male 57.58454 6.0369091  
## 43 Cedars-Sinai 3 3-297 22-Nov-09 male 62.44015 2.2503211  
## 44 Cedars-Sinai 3 3-297 16-Sep-09 female 52.20872 4.0896678  
## 45 Cedars-Sinai 3 3-297 15-Jul-10 female 61.47713 1.3667365  
## 47 Cedars-Sinai 3 3-308 10-Jun-10 female 61.35215 3.2835672  
## 50 Cedars-Sinai 3 3-308 17-Dec-10 female 55.83693 3.9683030  
## 53 Cedars-Sinai 3 3-308 4-Jun-10 female 52.95971 3.0004675  
## 57 Cedars-Sinai 3 3-316 1-Jul-11 male 53.01957 8.3036318  
## 59 Cedars-Sinai 3 3-316 4-Feb-10 male 60.84154 8.2506819  
## 61 Cedars-Sinai 3 3-316 7-Nov-09 female 51.07220 -99.0000000  
## 62 Cedars-Sinai 3 3-316 31-Mar-10 male 50.38627 4.8610406  
## 64 Cedars-Sinai 3 3-327 12-Jan-10 female 55.00992 1.1972954  
## 65 Cedars-Sinai 3 3-327 31-Jan-10 male 59.61794 3.8871784  
## 66 Cedars-Sinai 3 3-327 6-Jan-11 female 54.42569 7.0237164  
## 70 Cedars-Sinai 3 3-341 25-Sep-10 female 51.67268 3.4007270  
## 71 Cedars-Sinai 3 3-341 13-Apr-09 male 67.00352 4.9465933  
## 72 Cedars-Sinai 3 3-341 1-Jun-10 male 52.48410 5.0186124  
## 74 Cedars-Sinai 3 3-341 25-Nov-09 female 62.59215 3.2830064  
## 75 Cedars-Sinai 3 3-351 2-May-10 male 58.22816 6.3649383  
## 76 Cedars-Sinai 3 3-351 22-Mar-10 female 51.85027 3.8645523  
## 77 Cedars-Sinai 3 3-351 2-Jun-10 male 55.77947 1.8126239  
## 78 Cedars-Sinai 3 3-351 20-Oct-10 female 52.40422 6.0476184  
## 79 Cedars-Sinai 3 3-351 25-Apr-10 male 50.25625 0.6675176  
## 81 Cedars-Sinai 3 3-362 3-Sep-09 male 58.61216 1.0111701  
## 82 Cedars-Sinai 3 3-362 28-Sep-09 female 50.78495 -99.0000000  
## 84 Cedars-Sinai 3 3-362 21-Aug-10 male 51.41137 7.7459831  
## 85 Cedars-Sinai 3 3-362 18-Jul-09 female 61.07196 1.0254576  
## 87 Cedars-Sinai 3 3-374 7-Sep-09 female 50.09197 14.6903140  
## 88 Cedars-Sinai 3 3-375 12-Jan-10 male 57.80902 -99.0000000  
## 90 Cedars-Sinai 3 3-375 25-Oct-10 female 54.47377 -99.0000000  
## 91 Cedars-Sinai 3 3-375 21-May-10 female 51.35175 1.1783494  
## 92 Cedars-Sinai 3 3-375 26-Nov-09 female 61.54495 1.9944118  
## 93 Cedars-Sinai 3 3-375 29-Sep-09 female 64.29372 1.8111966  
## 94 Cedars-Sinai 3 3-385 13-Dec-10 male 53.46611 3.0008397  
## 95 Cedars-Sinai 3 3-385 1-Apr-10 male 52.48847 8.4504557  
## 96 Cedars-Sinai 3 3-385 16-Mar-10 female 52.09441 2.7989397  
## 98 Cedars-Sinai 3 3-385 21-Dec-09 male 62.16637 23.7277640  
## 100 Cedars-Sinai 3 3-385 30-Aug-09 female 54.61924 1.1675315  
## 101 Cedars-Sinai 3 3-394 11-Mar-11 female 62.05481 -99.0000000  
## 103 Cedars-Sinai 3 3-394 29-Sep-09 female 52.71251 0.9782792  
## 105 Cedars-Sinai 3 3-394 14-Oct-09 female 55.43336 3.6410155  
## 106 Cedars-Sinai 3 3-394 2-Apr-10 male 54.66919 0.3285985  
## 108 Cedars-Sinai 3 3-227 17-Feb-10 female 54.62732 6.6980677  
## 109 Cedars-Sinai 3 3-297 25-Mar-10 male 70.26617 2.3136928  
## 110 Cedars-Sinai 3 3-351 20-Oct-10 female 52.40422 6.0476184  
## 111 Cedars-Sinai 3 3-362 18-Jul-09 female 61.07196 1.0254576  
## test2 pain tumorsize co2 wound mobility ntumors remission  
## 1 1.3682580 6 69.77004 1.525533 5 5 4 0  
## 2 4.4953203 8 68.03432 1.693319 4 5 2 0  
## 3 -99.0000000 7 65.06084 1.558663 4 6 7 0  
## 4 4.6067319 9 71.43866 -98.000000 5 6 2 0  
## 5 2.6419492 4 69.52477 1.680759 5 6 3 0  
## 7 3.3695142 6 73.05109 1.781959 4 5 5 0  
## 9 6.7869735 5 55.13773 1.707401 7 6 4 0  
## 10 14.0294420 8 61.32932 1.779076 7 6 6 0  
## 11 1.3424877 4 58.02789 1.516149 8 6 7 0  
## 12 0.1860638 5 61.33863 1.599527 6 6 2 0  
## 13 8.3618088 6 54.71625 1.560462 7 6 4 0  
## 14 13.8266090 7 58.78599 1.534150 6 5 2 0  
## 17 7.1754246 5 67.28179 -98.000000 5 7 9 0  
## 19 10.5924560 7 90.12706 1.392448 5 6 3 1  
## 20 2.6473446 5 82.20936 1.360948 4 6 5 0  
## 21 4.9351196 7 78.25295 1.607726 5 6 0 0  
## 25 1.0851927 6 86.73096 1.639508 4 4 2 0  
## 27 -99.0000000 5 81.78026 1.715233 4 4 1 0  
## 28 5.2414331 9 103.12648 2.047362 4 5 0 0  
## 29 3.4481187 4 81.81314 1.858151 4 7 4 1  
## 30 4.1237755 5 68.92293 1.685119 5 6 7 1  
## 32 2.5716550 4 64.06742 1.795209 6 7 6 1  
## 36 5.7247849 2 65.92306 1.486930 9 7 9 0  
## 37 2.3665235 4 38.67265 1.373692 9 6 4 0  
## 38 2.8958323 4 63.43257 1.485646 6 8 3 0  
## 39 -99.0000000 9 53.91849 1.695409 7 6 5 0  
## 40 2.3084073 4 73.83613 1.704525 6 6 3 0  
## 41 9.7075062 6 62.02109 1.594875 7 6 5 0  
## 43 4.0027494 2 59.76037 1.641618 6 6 1 0  
## 44 4.9066381 5 71.33379 1.572239 6 6 2 0  
## 45 9.1771088 6 56.42965 1.521552 6 6 5 0  
## 47 0.6122543 6 96.30850 1.835191 8 9 2 0  
## 50 1.5119979 7 74.51965 1.517564 7 8 3 1  
## 53 1.1974446 6 80.22157 1.564264 7 8 0 0  
## 57 6.4694691 7 58.26942 1.714227 4 5 1 0  
## 59 4.7217321 8 72.24465 1.692212 4 5 9 0  
## 61 7.7282276 7 62.92888 1.760255 3 5 4 0  
## 62 2.5244038 5 89.80267 1.863825 3 6 4 1  
## 64 3.7886267 3 63.24441 1.452051 4 4 7 0  
## 65 9.7134886 5 51.60148 -98.000000 5 4 6 0  
## 66 4.0041127 5 65.02505 1.583352 4 4 1 0  
## 70 5.9651423 3 64.56969 1.598810 6 6 6 0  
## 71 5.3172221 5 55.81958 1.560994 7 5 3 0  
## 72 5.4506531 4 79.76490 1.631973 7 5 7 0  
## 74 3.2925832 3 49.43695 1.578925 6 6 9 0  
## 75 2.5003259 4 65.35175 1.514685 6 5 1 1  
## 76 4.6699567 7 70.60680 1.584533 5 5 0 1  
## 77 3.2452555 3 60.56009 1.239066 6 5 2 1  
## 78 1.8555757 6 79.02422 1.777987 5 6 0 1  
## 79 9.7559109 4 72.41397 1.524026 6 5 1 1  
## 81 15.2271050 5 68.71574 1.485378 7 6 4 1  
## 82 9.0094042 7 71.35734 1.636373 5 4 2 1  
## 84 4.3891339 8 63.70499 1.673501 7 4 2 0  
## 85 1.4013335 3 70.62777 1.534433 6 5 3 1  
## 87 4.8418560 9 71.79821 1.753696 6 6 4 0  
## 88 3.4734211 6 61.40550 1.412816 7 7 6 0  
## 90 -99.0000000 5 75.12593 1.661609 6 6 8 0  
## 91 4.6982360 5 65.21111 -98.000000 6 5 3 0  
## 92 7.9440856 5 66.06235 1.604917 6 6 5 0  
## 93 4.6064472 6 68.82069 1.596288 6 7 6 0  
## 94 4.7194872 5 61.86195 1.438481 8 9 1 1  
## 95 3.1018767 6 66.68037 1.525258 8 9 5 0  
## 96 7.0000792 5 66.99330 1.416639 7 9 4 0  
## 98 3.4648383 8 60.53731 1.616036 9 9 9 0  
## 100 5.1452818 6 73.29335 1.605025 8 9 8 0  
## 101 -99.0000000 6 65.23151 1.741886 5 4 8 0  
## 103 2.0377166 4 53.60916 1.604750 5 4 2 0  
## 105 -99.0000000 6 52.45958 1.635591 5 4 0 0  
## 106 5.8754735 6 70.62330 1.750237 6 5 1 0  
## 108 2.6419492 4 69.52477 1.680759 5 6 3 0  
## 109 2.8958323 4 63.43257 1.485646 6 8 3 0  
## 110 1.8555757 6 79.02422 1.777987 5 6 0 1  
## 111 1.4013335 3 70.62777 1.534433 6 5 3 1  
## lungcapacity married familyhx smokinghx cancerstage lengthofstay  
## 1 0.9108813 1 no never I 4  
## 2 0.9298442 1 no never II 6  
## 3 0.7964214 0 -99 -99 IV 7  
## 4 -98.0000000 0 no never II 6  
## 5 0.9471640 1 yes former II 5  
## 7 -99.0000000 0 no never IV 6  
## 9 0.7583944 0 no never IV 7  
## 10 0.7461327 1 yes never III 7  
## 11 0.8208128 1 yes never III 6  
## 12 0.7567657 1 no never II 6  
## 13 0.9615322 1 no never I 5  
## 14 0.8586306 1 no never II 5  
## 17 -98.0000000 1 yes never IV 7  
## 19 0.5760397 1 no never III 5  
## 20 0.8904102 1 yes never IV 6  
## 21 0.8199769 1 no former I 6  
## 25 0.5538280 1 no never II 6  
## 27 0.9642143 0 no never III 6  
## 28 0.7896699 1 no current I 5  
## 29 0.9369230 0 no former II 6  
## 30 -99.0000000 1 yes never III 7  
## 32 -99.0000000 1 no never IV 4  
## 36 0.7019902 1 yes former II 6  
## 37 -99.0000000 1 no never II 5  
## 38 0.8651822 1 no never II 6  
## 39 0.8939027 1 no never II 6  
## 40 0.7828913 1 -99 -99 I 4  
## 41 0.9582178 1 no never III 5  
## 43 0.8495921 1 no never II 6  
## 44 -99.0000000 1 no former II 5  
## 45 -99.0000000 1 no never IV 6  
## 47 0.8364119 0 no current II 6  
## 50 0.8101323 1 no never II 7  
## 53 0.6568300 0 no never IV 7  
## 57 0.9352623 1 no never I 5  
## 59 0.9419439 0 no never IV 8  
## 61 0.9502571 0 no never II 6  
## 62 -99.0000000 0 no current I 4  
## 64 0.3925069 0 -99 -99 IV 6  
## 65 -98.0000000 0 no never IV 5  
## 66 0.7051815 0 no former II 5  
## 70 0.9483916 1 no former III 4  
## 71 0.7730067 1 no never II 7  
## 72 0.8437221 0 yes former III 6  
## 74 0.1677225 0 yes never IV 7  
## 75 0.8680527 1 no never III 6  
## 76 0.5642588 1 no never II 6  
## 77 0.8767912 1 no never I 5  
## 78 0.7877101 1 no current I 3  
## 79 0.7486017 1 no never II 5  
## 81 0.8995483 1 no never III 7  
## 82 0.8333687 1 no former II 4  
## 84 0.9681796 1 no never II 5  
## 85 0.7667797 1 no never II 5  
## 87 0.7945048 1 no current I 4  
## 88 0.8501843 1 no never IV 6  
## 90 0.7199898 0 yes never IV 5  
## 91 -98.0000000 1 no never III 6  
## 92 0.8423218 0 no never IV 7  
## 93 0.5048023 0 -99 -99 IV 9  
## 94 0.7585776 0 no never III 5  
## 95 0.7532732 0 no former I 6  
## 96 0.8756146 0 no never II 5  
## 98 0.9779460 1 -99 -99 IV 7  
## 100 -99.0000000 1 no former III 5  
## 101 0.9108185 1 yes former III 8  
## 103 0.6490076 0 yes never II 8  
## 105 0.9591734 0 -99 -99 III 7  
## 106 0.4768304 1 no never II 6  
## 108 0.9471640 1 yes former II 5  
## 109 0.8651822 1 no never II 6  
## 110 0.7877101 1 no current I 3  
## 111 0.7667797 1 no never II 5  
## wbc rbc bmi  
## 1 6422.606934 5.394183 32.24669  
## 2 5562.57373 4.792162 25.07808  
## 3 4994.978027 4.934001 28.88207  
## 4 5368.994629 4.440117 20.15032  
## 5 6668.87793 5.001358 25.71963  
## 7 6265.304199 4.944838 23.26038  
## 9 4974.49707 5.660488 25.68139  
## 10 4543.435547 4.876918 21.14435  
## 11 5828.817871 4.859779 28.93379  
## 12 6095.838379 5.297528 31.15112  
## 13 4219.032227 4.999079 36.41649  
## 14 7487.889648 4.644077 21.25582  
## 17 6493.619629 4.797603 29.94395  
## 19 6632.799316 5.332094 26.05418  
## 20 7267.286621 4.812957 24.83636  
## 21 4844.911133 5.354625 24.62833  
## 25 7799.410156 4.197128 36.06027  
## 27 6288.597168 4.698022 27.66931  
## 28 6927.235352 5.180500 33.58642  
## 29 3741.285156 5.427626 24.52948  
## 30 6393.829102 5.073944 21.72115  
## 32 7944.194336 5.109207 21.44933  
## 36 7397.459961 5.148680 26.49731  
## 37 4415.078613 5.158930 25.33528  
## 38 7452.634766 5.374302 23.79790  
## 39 7634.742188 5.001444 24.96874  
## 40 4430.995117 5.129488 26.94212  
## 41 7114.001465 5.537810 32.47209  
## 43 6269.821777 4.773423 21.82892  
## 44 6113.148438 5.232781 23.70095  
## 45 4599.469238 5.264908 20.57872  
## 47 5407.66748 5.268750 43.94758  
## 50 5761.390137 4.989712 23.01308  
## 53 7268.667969 4.177895 21.05886  
## 57 3626.361084 4.613932 32.88168  
## 59 3363.489502 4.783372 24.92497  
## 61 5583.044922 5.452146 30.61357  
## 62 5017.784668 5.048864 24.71029  
## 64 4627.858887 4.743760 35.52697  
## 65 6867.832031 5.554961 20.84822  
## 66 5433.393555 4.465961 38.62032  
## 70 6990.919434 4.717040 24.15160  
## 71 5374.148438 4.740019 28.70374  
## 72 4591.349121 5.119875 18.67567  
## 74 5850.116211 4.920642 29.05424  
## 75 6794.919434 5.331229 28.39998  
## 76 6331.328125 4.614077 22.36649  
## 77 6266.046875 4.925993 24.53451  
## 78 7570.229492 4.910630 33.97637  
## 79 7224.695801 5.049620 28.43423  
## 81 6295.271973 4.710737 22.87007  
## 82 6386.570313 4.703589 23.93771  
## 84 6458.324707 5.049508 28.95329  
## 85 5018.154297 4.917212 26.46647  
## 87 6786.110352 5.077697 18.91819  
## 88 6445.386719 4.892603 24.42378  
## 90 7213.093262 5.080519 23.86176  
## 91 5778.994629 5.281972 31.79041  
## 92 4153.04248 5.517215 21.13043  
## 93 4155.62207 5.039895 26.15713  
## 94 4489.886719 5.006979 43.41316  
## 95 6531.227539 4.934585 35.06511  
## 96 6458.214844 5.182721 20.32026  
## 98 6098.222656 5.442174 27.71184  
## 100 5559.666504 4.977932 24.99809  
## 101 5562.141113 5.425205 30.07159  
## 103 4953.607422 4.860159 23.78652  
## 105 6427.128418 4.962621 21.37306  
## 106 6225.365234 5.246511 27.76446  
## 108 6668.87793 5.001358 25.71963  
## 109 7452.634766 5.374302 23.79790  
## 110 7570.229492 4.910630 33.97637  
## 111 5018.154297 4.917212 26.46647

Q5: Display only two columns of data: tumorsize and cancerstage

dimnames <- df[c("tumorsize", "cancerstage")]   
dimnames

## tumorsize cancerstage  
## 1 69.77004 I  
## 2 68.03432 II  
## 3 65.06084 IV  
## 4 71.43866 II  
## 5 69.52477 II  
## 6 89.74382 II  
## 7 73.05109 IV  
## 8 80.60186 III  
## 9 55.13773 IV  
## 10 61.32932 III  
## 11 58.02789 III  
## 12 61.33863 II  
## 13 54.71625 I  
## 14 58.78599 II  
## 15 66.45782 II  
## 16 85.73996 IV  
## 17 67.28179 IV  
## 18 62.07086 I  
## 19 90.12706 III  
## 20 82.20936 IV  
## 21 78.25295 I  
## 22 68.81224 II  
## 23 93.79339 I  
## 24 69.10189 II  
## 25 86.73096 II  
## 26 81.09841 II  
## 27 81.78026 III  
## 28 103.12648 I  
## 29 81.81314 II  
## 30 68.92293 III  
## 31 44.23611 II  
## 32 64.06742 IV  
## 33 61.57442 II  
## 34 62.65709 I  
## 35 82.88847 II  
## 36 65.92306 II  
## 37 38.67265 II  
## 38 63.43257 II  
## 39 53.91849 II  
## 40 73.83613 I  
## 41 62.02109 III  
## 42 80.26254 I  
## 43 59.76037 II  
## 44 71.33379 II  
## 45 56.42965 IV  
## 46 75.47771 III  
## 47 96.30850 II  
## 48 67.35020 II  
## 49 74.49383 II  
## 50 74.51965 II  
## 51 80.18001 II  
## 52 96.34092 III  
## 53 80.22157 IV  
## 54 90.34315 III  
## 55 65.36430 I  
## 56 79.00652 II  
## 57 58.26942 I  
## 58 79.04605 I  
## 59 72.24465 IV  
## 60 70.61285 III  
## 61 62.92888 II  
## 62 89.80267 I  
## 63 66.47433 I  
## 64 63.24441 IV  
## 65 51.60148 IV  
## 66 65.02505 II  
## 67 53.02830 II  
## 68 67.75049 I  
## 69 60.19660 I  
## 70 64.56969 III  
## 71 55.81958 II  
## 72 79.76490 III  
## 73 51.20747 II  
## 74 49.43695 IV  
## 75 65.35175 III  
## 76 70.60680 II  
## 77 60.56009 I  
## 78 79.02422 I  
## 79 72.41397 II  
## 80 62.44420 II  
## 81 68.71574 III  
## 82 71.35734 II  
## 83 80.51392 I  
## 84 63.70499 II  
## 85 70.62777 II  
## 86 41.34879 II  
## 87 71.79821 I  
## 88 61.40550 IV  
## 89 64.85105 II  
## 90 75.12593 IV  
## 91 65.21111 III  
## 92 66.06235 IV  
## 93 68.82069 IV  
## 94 61.86195 III  
## 95 66.68037 I  
## 96 66.99330 II  
## 97 80.75273 II  
## 98 60.53731 IV  
## 99 83.21347 II  
## 100 73.29335 III  
## 101 65.23151 III  
## 102 87.63384 I  
## 103 53.60916 II  
## 104 68.04404 III  
## 105 52.45958 III  
## 106 70.62330 II  
## 107 64.91866 II  
## 108 69.52477 II  
## 109 63.43257 II  
## 110 79.02422 I  
## 111 70.62777 II

Q6: Computer the mean age

meanage <- mean(df$age)  
meanage

## [1] 52.47096

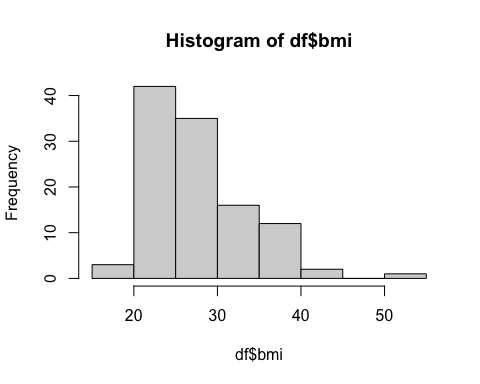
Q7: Compute the correlation between tumorsize and age

cor(df$tumorsize, df$age)

## [1] -0.135963

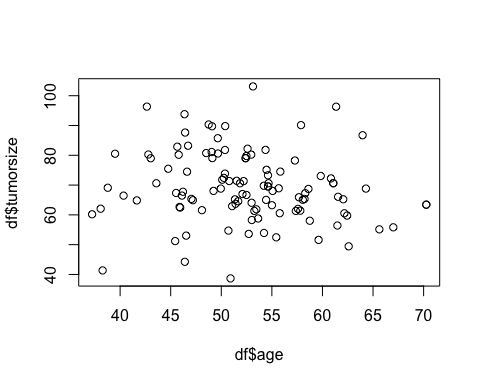
Q8: Plot a histogram for bmi

hist(df$bmi)



Q9: Plot a scatterplot for age and tumorsize

plot(df$age, df$tumorsize)



Q10: Display frequency table for ntumors

v <- c(df$ntumors)  
table(v)

## v  
## 0 1 2 3 4 5 6 7 8 9   
## 14 14 18 15 14 11 8 8 3 6