FML 1-811287455

2023-09-09

#PART A-IMPORTING THE DATASET

#DATASET-

```
my <- read.csv("/Users/sudarshan/Downloads/exams.csv")
my
```

```
##      gender race.ethnicity parental.level.of.education      lunch
## 1      male        group A              high school      standard
## 2    female        group D         some high school free/reduced
## 3      male        group E             some college free/reduced
## 4      male        group B              high school      standard
## 5      male        group E        associate's degree      standard
## 6    female        group D              high school      standard
## 7    female        group A        bachelor's degree      standard
## 8      male        group E             some college      standard
## 9      male        group D              high school      standard
## 10     male        group C             some college free/reduced
## 11     male        group E             some college      standard
## 12   female        group D              high school      standard
## 13     male        group D        associate's degree      standard
## 14     male        group C              high school      standard
## 15     male        group E         some high school      standard
## 16     male        group E        associate's degree free/reduced
## 17     male        group B              high school      standard
## 18   female        group C        associate's degree      standard
## 19   female        group C        associate's degree free/reduced
## 20     male        group C             some college free/reduced
## 21   female        group C        associate's degree      standard
## 22     male        group C        associate's degree      standard
## 23     male        group B             some college      standard
## 24   female        group B             some college free/reduced
## 25     male        group E         some high school free/reduced
## 26     male        group C              high school free/reduced
## 27   female        group C         some high school      standard
## 28     male        group E              high school      standard
## 29   female        group B              high school      standard
## 30   female        group A         some high school free/reduced
## 31     male        group B             some college      standard
## 32     male        group A        bachelor's degree free/reduced
## 33     male        group A         some high school free/reduced
```

```
## 34    female      group B       associate's degree      standard
## 35    female      group B        bachelor's degree      standard
## 36    female      group A        bachelor's degree      standard
## 37    female      group C            some college      standard
## 38      male      group B             high school free/reduced
## 39    female      group B            some college free/reduced
## 40      male      group E       associate's degree      standard
## 41    female      group B          master's degree free/reduced
## 42      male      group D             high school      standard
## 43      male      group E             high school      standard
## 44    female      group C          master's degree      standard
## 45      male      group E             high school      standard
## 46      male      group C        bachelor's degree      standard
## 47      male      group C       associate's degree free/reduced
## 48    female      group E        some high school      standard
## 49    female      group D             high school      standard
## 50      male      group C       associate's degree free/reduced
## 51      male      group D             high school      standard
## 52    female      group C        some high school free/reduced
## 53    female      group C       associate's degree      standard
## 54    female      group C             high school free/reduced
## 55      male      group D             high school free/reduced
## 56    female      group C            some college      standard
## 57    female      group C        bachelor's degree      standard
## 58      male      group D       associate's degree      standard
## 59    female      group D            some college free/reduced
## 60      male      group E        some high school      standard
## 61      male      group D            some college free/reduced
## 62    female      group E        some high school      standard
## 63      male      group E        some high school      standard
## 64      male      group A        bachelor's degree      standard
## 65      male      group D          master's degree      standard
## 66    female      group C        some high school free/reduced
## 67      male      group C             high school      standard
## 68    female      group D        some high school free/reduced
## 69      male      group B             high school      standard
## 70    female      group C             high school      standard
## 71    female      group C       associate's degree      standard
## 72      male      group C       associate's degree      standard
## 73    female      group B            some college      standard
## 74    female      group C        some high school      standard
## 75      male      group B          master's degree free/reduced
## 76    female      group C             high school      standard
## 77    female      group C            some college      standard
## 78    female      group D             high school free/reduced
## 79      male      group C       associate's degree      standard
## 80      male      group D        some high school      standard
```

```
## 81    female    group B    bachelor's degree    standard
## 82    female    group D    some high school  free/reduced
## 83    female    group C    associate's degree free/reduced
## 84      male    group B          high school    standard
## 85    female    group B    associate's degree free/reduced
## 86    female    group C    some high school    standard
## 87    female    group C        some college free/reduced
## 88      male    group D        some college    standard
## 89    female    group D        some college    standard
## 90      male    group B          high school    standard
## 91      male    group C        some college free/reduced
## 92      male    group B    some high school    standard
## 93    female    group D      master's degree    standard
## 94      male    group D    bachelor's degree    standard
## 95      male    group B      master's degree free/reduced
## 96    female    group C          high school    standard
## 97    female    group E    associate's degree    standard
## 98      male    group B          high school free/reduced
## 99      male    group A        some college    standard
## 100     male    group B    associate's degree    standard
## 101     male    group C        some college free/reduced
## 102     male    group C        some college    standard
## 103     male    group E          high school    standard
## 104     male    group D          high school    standard
## 105   female    group B        some college    standard
## 106   female    group D    bachelor's degree    standard
## 107     male    group D          high school    standard
## 108     male    group A    bachelor's degree    standard
## 109     male    group B    associate's degree    standard
## 110     male    group C        some college free/reduced
## 111   female    group C        some college    standard
## 112   female    group D    some high school    standard
## 113   female    group C      master's degree    standard
## 114     male    group A    bachelor's degree free/reduced
## 115     male    group D          high school    standard
## 116     male    group B    associate's degree    standard
## 117   female    group E        some college free/reduced
## 118     male    group C    associate's degree    standard
## 119     male    group B    bachelor's degree free/reduced
## 120   female    group D    some high school    standard
## 121   female    group C          high school    standard
## 122   female    group D    bachelor's degree    standard
## 123   female    group C    bachelor's degree    standard
## 124   female    group C    some high school    standard
## 125   female    group D    associate's degree    standard
## 126     male    group C      master's degree    standard
## 127     male    group D    associate's degree    standard
```

```
## 128   male     group C           some high school    standard
## 129   male     group E               some college    standard
## 130 female     group D   associate's degree free/reduced
## 131 female     group E   associate's degree free/reduced
## 132   male     group C                 high school    standard
## 133   male     group B               some college    standard
## 134   male     group D   associate's degree    standard
## 135   male     group E               some college    standard
## 136   male     group C         some high school free/reduced
## 137   male     group A               some college    standard
## 138 female     group B   associate's degree    standard
## 139   male     group D               some college free/reduced
## 140 female     group C         some high school free/reduced
## 141   male     group B   associate's degree free/reduced
## 142 female     group D               some college free/reduced
## 143 female     group D     bachelor's degree    standard
## 144 female     group B   associate's degree    standard
## 145   male     group B     master's degree    standard
## 146 female     group B           high school free/reduced
## 147 female     group B       some high school    standard
## 148   male     group E               some college    standard
## 149 female     group E     bachelor's degree    standard
## 150   male     group A   associate's degree free/reduced
## 151 female     group C               some college    standard
## 152 female     group C           high school free/reduced
## 153 female     group B   associate's degree    standard
## 154   male     group D     bachelor's degree    standard
## 155 female     group C   associate's degree free/reduced
## 156 female     group C               some college    standard
## 157   male     group B           high school free/reduced
## 158 female     group E   associate's degree free/reduced
## 159 female     group D   associate's degree free/reduced
## 160   male     group E         some high school free/reduced
## 161 female     group D   associate's degree    standard
## 162   male     group D   associate's degree free/reduced
## 163 female     group C     bachelor's degree    standard
## 164 female     group B       some high school    standard
## 165   male     group A     bachelor's degree    standard
## 166 female     group D     bachelor's degree    standard
## 167   male     group B     bachelor's degree    standard
## 168 female     group B       some high school    standard
## 169 female     group C     master's degree    standard
## 170 female     group A             high school    standard
## 171 female     group B             high school    standard
## 172 female     group D               some college    standard
## 173 female     group C               some college free/reduced
## 174   male     group A         some high school free/reduced
```

```
## 175   male    group B             some college    standard
## 176 female    group D             some college free/reduced
## 177 female    group C        bachelor's degree    standard
## 178   male    group B       some high school free/reduced
## 179 female    group D             some college free/reduced
## 180   male    group D              high school    standard
## 181 female    group D       some high school    standard
## 182 female    group C             some college    standard
## 183 female    group E        bachelor's degree    standard
## 184 female    group C     associate's degree    standard
## 185 female    group C     associate's degree    standard
## 186 female    group C        master's degree    standard
## 187   male    group B              high school    standard
## 188   male    group E       some high school free/reduced
## 189   male    group D              high school    standard
## 190   male    group B       some high school free/reduced
## 191   male    group B       some high school    standard
## 192 female    group B       some high school    standard
## 193   male    group E       some high school free/reduced
## 194 female    group C     associate's degree    standard
## 195 female    group C        bachelor's degree    standard
## 196 female    group D       some high school free/reduced
## 197   male    group D        bachelor's degree    standard
## 198   male    group A        master's degree free/reduced
## 199 female    group B     associate's degree    standard
## 200   male    group D              high school    standard
## 201 female    group D     associate's degree    standard
## 202   male    group E     associate's degree    standard
## 203   male    group C             some college    standard
## 204 female    group B       some high school    standard
## 205 female    group D     associate's degree free/reduced
## 206   male    group B       some high school    standard
## 207 female    group A        master's degree    standard
## 208   male    group C             some college    standard
## 209 female    group A             some college    standard
## 210 female    group B     associate's degree    standard
## 211 female    group D              high school free/reduced
## 212   male    group D     associate's degree    standard
## 213   male    group C             some college    standard
## 214   male    group C       some high school    standard
## 215 female    group E       some high school    standard
## 216 female    group B        bachelor's degree free/reduced
## 217 female    group B     associate's degree    standard
## 218 female    group D             some college free/reduced
## 219   male    group B              high school free/reduced
## 220   male    group C     associate's degree    standard
## 221   male    group D             some college    standard
```

```
## 222   male     group C     associate's degree     standard
## 223 female     group B      some high school       standard
## 224 female     group D        master's degree      standard
## 225   male     group D      bachelor's degree      standard
## 226   male     group D       some high school      standard
## 227   male     group D           some college free/reduced
## 228 female     group D      bachelor's degree free/reduced
## 229 female     group D             high school     standard
## 230   male     group C     associate's degree free/reduced
## 231 female     group C             high school     standard
## 232   male     group B            some college     standard
## 233   male     group C            some college free/reduced
## 234   male     group C            some college     standard
## 235 female     group B      bachelor's degree      standard
## 236   male     group C     associate's degree      standard
## 237 female     group C      bachelor's degree      standard
## 238 female     group D             high school     standard
## 239   male     group B     associate's degree      standard
## 240   male     group C      bachelor's degree      standard
## 241 female     group D            some college     standard
## 242   male     group D     associate's degree      standard
## 243   male     group D      some high school       standard
## 244   male     group C            some college     standard
## 245   male     group B      some high school       standard
## 246   male     group C             high school     standard
## 247 female     group C      some high school  free/reduced
## 248   male     group D      some high school       standard
## 249   male     group C     associate's degree      standard
## 250 female     group D     associate's degree free/reduced
## 251 female     group D            some college free/reduced
## 252   male     group B      some high school       standard
## 253   male     group D      some high school       standard
## 254 female     group B     associate's degree      standard
## 255 female     group C             high school free/reduced
## 256 female     group D      some high school       standard
## 257   male     group A      bachelor's degree      standard
## 258 female     group E      some high school       standard
## 259 female     group B      some high school  free/reduced
## 260 female     group D     associate's degree free/reduced
## 261 female     group A      some high school       standard
## 262 female     group C             high school     standard
## 263   male     group D      some high school       standard
## 264   male     group D     associate's degree      standard
## 265   male     group D      some high school       standard
## 266   male     group D      some high school       standard
## 267   male     group C     associate's degree      standard
## 268 female     group D     associate's degree      standard
```

```
## 269 female      group B            some college    standard
## 270 female      group E            some college    standard
## 271 female      group C        some high school    standard
## 272 female      group D        some high school    standard
## 273   male      group B             high school    standard
## 274 female      group E             high school    standard
## 275 female      group B        some high school    standard
## 276 female      group E        some high school    standard
## 277 female      group D             high school free/reduced
## 278 female      group E     associate's degree    standard
## 279 female      group B             high school    standard
## 280   male      group D             high school    standard
## 281   male      group D        some high school    standard
## 282   male      group E     associate's degree    standard
## 283 female      group B            some college free/reduced
## 284   male      group D            some college free/reduced
## 285   male      group B      bachelor's degree free/reduced
## 286   male      group C     associate's degree    standard
## 287 female      group D             high school    standard
## 288   male      group C            some college    standard
## 289 female      group C        some high school free/reduced
## 290   male      group B             high school    standard
## 291   male      group C     associate's degree    standard
## 292 female      group B             high school free/reduced
## 293   male      group D            some college free/reduced
## 294 female      group D             high school free/reduced
## 295 female      group C      bachelor's degree free/reduced
## 296 female      group C        some high school    standard
## 297   male      group D        some high school free/reduced
## 298 female      group E      bachelor's degree free/reduced
## 299   male      group B             high school    standard
## 300   male      group D             high school    standard
## 301   male      group B            some college free/reduced
## 302   male      group A        some high school free/reduced
## 303   male      group C             high school free/reduced
## 304   male      group C            some college    standard
## 305   male      group D      bachelor's degree    standard
## 306 female      group B            some college    standard
## 307   male      group C             high school    standard
## 308   male      group A       master's degree    standard
## 309 female      group D      bachelor's degree    standard
## 310   male      group C      bachelor's degree    standard
## 311   male      group D     associate's degree free/reduced
## 312 female      group C        some high school    standard
## 313   male      group C     associate's degree free/reduced
## 314   male      group E            some college    standard
## 315   male      group C     associate's degree    standard
```

```
## 316 female        group C        associate's degree      standard
## 317 female        group C              high school      standard
## 318   male        group C              some college      standard
## 319 female        group D        some high school free/reduced
## 320   male        group D              some college      standard
## 321   male        group E              high school free/reduced
## 322 female        group C              some college free/reduced
## 323 female        group C              high school      standard
## 324   male        group D        associate's degree      standard
## 325   male        group E        some high school      standard
## 326 female        group C        some high school      standard
## 327   male        group B        associate's degree free/reduced
## 328 female        group A              high school      standard
## 329   male        group D              some college free/reduced
## 330   male        group D        associate's degree      standard
## 331   male        group C              some college      standard
## 332 female        group C        bachelor's degree free/reduced
## 333   male        group C              some college      standard
## 334   male        group D        some high school      standard
## 335   male        group C              high school      standard
## 336   male        group C        associate's degree      standard
## 337   male        group D              some college free/reduced
## 338 female        group E              high school free/reduced
## 339 female        group C        associate's degree      standard
## 340 female        group A              high school      standard
## 341 female        group E        some high school      standard
## 342   male        group C        some high school free/reduced
## 343   male        group C        associate's degree free/reduced
## 344 female        group D        some high school      standard
## 345   male        group B              high school      standard
## 346   male        group D              some college free/reduced
## 347 female        group B          master's degree      standard
## 348   male        group A        associate's degree      standard
## 349 female        group B              some college free/reduced
## 350 female        group B        some high school      standard
## 351 female        group E        some high school free/reduced
## 352 female        group E          master's degree      standard
## 353 female        group D        bachelor's degree      standard
## 354   male        group D        bachelor's degree free/reduced
## 355 female        group D              high school      standard
## 356 female        group B        associate's degree      standard
## 357 female        group B              high school free/reduced
## 358 female        group B        bachelor's degree      standard
## 359   male        group C        some high school free/reduced
## 360   male        group D        some high school free/reduced
## 361 female        group A              some college free/reduced
## 362   male        group C              some college free/reduced
```

```
## 363 female      group B      some high school    standard
## 364   male      group A         some college    standard
## 365   male      group C           high school    standard
## 366 female      group D   associate's degree    standard
## 367 female      group C   associate's degree free/reduced
## 368   male      group B      some high school    standard
## 369 female      group C      some high school free/reduced
## 370 female      group A           high school    standard
## 371   male      group D      some high school    standard
## 372 female      group B         some college    standard
## 373 female      group C    bachelor's degree free/reduced
## 374   male      group E         some college free/reduced
## 375 female      group E    bachelor's degree    standard
## 376   male      group E           high school free/reduced
## 377 female      group A           high school    standard
## 378   male      group B         some college free/reduced
## 379 female      group C    bachelor's degree    standard
## 380 female      group D         some college    standard
## 381 female      group E           high school    standard
## 382 female      group D           high school    standard
## 383 female      group E      some high school    standard
## 384   male      group E   associate's degree    standard
## 385 female      group D           high school    standard
## 386 female      group D      some high school free/reduced
## 387 female      group D      some high school free/reduced
## 388   male      group C      some high school free/reduced
## 389   male      group A   associate's degree free/reduced
## 390   male      group C    bachelor's degree free/reduced
## 391 female      group C         some college    standard
## 392 female      group C           high school free/reduced
## 393 female      group C         some college free/reduced
## 394   male      group D         some college free/reduced
## 395   male      group C      some high school    standard
## 396 female      group B      some high school    standard
## 397 female      group D   associate's degree    standard
## 398 female      group B   associate's degree    standard
## 399   male      group B    bachelor's degree    standard
## 400 female      group A         some college free/reduced
## 401   male      group C         some college    standard
## 402   male      group A   associate's degree    standard
## 403 female      group C      some high school    standard
## 404 female      group B         some college    standard
## 405 female      group A           high school    standard
## 406   male      group C   associate's degree    standard
## 407   male      group D         some college    standard
## 408 female      group B   associate's degree    standard
## 409   male      group A           high school    standard
```

```
## 410   male     group D         some college     standard
## 411   male     group C          high school     standard
## 412 female     group B      bachelor's degree free/reduced
## 413 female     group C        master's degree free/reduced
## 414   male     group C      some high school free/reduced
## 415 female     group D      some high school     standard
## 416   male     group E          high school     standard
## 417   male     group E          some college free/reduced
## 418 female     group C      some high school     standard
## 419   male     group A          some college     standard
## 420 female     group C      some high school free/reduced
## 421 female     group A      bachelor's degree     standard
## 422   male     group D      some high school     standard
## 423   male     group C          some college free/reduced
## 424   male     group D    associate's degree     standard
## 425   male     group C          high school     standard
## 426 female     group E          some college     standard
## 427 female     group A        master's degree free/reduced
## 428   male     group C    associate's degree     standard
## 429   male     group C    associate's degree free/reduced
## 430   male     group B          some college     standard
## 431   male     group C      bachelor's degree     standard
## 432   male     group E      bachelor's degree     standard
## 433 female     group C    associate's degree free/reduced
## 434 female     group D          some college     standard
## 435   male     group C    associate's degree     standard
## 436 female     group E      some high school     standard
## 437   male     group C      some high school     standard
## 438   male     group C          some college     standard
## 439   male     group D    associate's degree     standard
## 440   male     group B    associate's degree free/reduced
## 441 female     group C          high school     standard
## 442 female     group C        master's degree     standard
## 443   male     group E      some high school free/reduced
## 444   male     group C          some college     standard
## 445   male     group D      bachelor's degree     standard
## 446 female     group E          high school     standard
## 447   male     group C          some college free/reduced
## 448   male     group D      some high school     standard
## 449 female     group C          high school free/reduced
## 450 female     group C          some college     standard
## 451 female     group B          high school     standard
## 452   male     group C          high school     standard
## 453 female     group C      some high school     standard
## 454   male     group C        master's degree free/reduced
## 455   male     group C    associate's degree     standard
## 456   male     group B      some high school     standard
```

```
## 457    male      group B              some college    standard
## 458  female      group B          master's degree    standard
## 459    male      group C              some college free/reduced
## 460    male      group C      some high school    standard
## 461    male      group B              some college free/reduced
## 462    male      group A      some high school free/reduced
## 463  female      group C              some college free/reduced
## 464  female      group C      bachelor's degree free/reduced
## 465  female      group D      some high school free/reduced
## 466    male      group B      some high school    standard
## 467  female      group B              some college free/reduced
## 468  female      group C      bachelor's degree    standard
## 469  female      group C              some college    standard
## 470    male      group C              some college    standard
## 471  female      group D              some college    standard
## 472    male      group B              some college    standard
## 473  female      group C    associate's degree    standard
## 474    male      group B              some college    standard
## 475  female      group B              some college    standard
## 476    male      group D              some college    standard
## 477  female      group C      some high school free/reduced
## 478    male      group E      bachelor's degree free/reduced
## 479    male      group C              some college free/reduced
## 480    male      group C    associate's degree free/reduced
## 481  female      group B      some high school    standard
## 482  female      group C      bachelor's degree free/reduced
## 483  female      group E        master's degree free/reduced
## 484  female      group C              some college free/reduced
## 485    male      group D              some college free/reduced
## 486    male      group B          master's degree    standard
## 487  female      group B    associate's degree free/reduced
## 488  female      group D        some high school    standard
## 489    male      group C      bachelor's degree    standard
## 490  female      group D      bachelor's degree    standard
## 491    male      group D          master's degree    standard
## 492  female      group D          master's degree    standard
## 493  female      group C        some high school    standard
## 494  female      group C        some high school    standard
## 495    male      group D              high school free/reduced
## 496    male      group E              some college    standard
## 497  female      group B      some high school free/reduced
## 498    male      group E              some college free/reduced
## 499    male      group B      bachelor's degree    standard
## 500    male      group B    associate's degree    standard
## 501  female      group B              high school free/reduced
## 502  female      group C    associate's degree    standard
## 503    male      group D    associate's degree    standard
```

```
## 504   male     group D              high school    standard
## 505 female     group C              high school free/reduced
## 506 female     group C    associate's degree    standard
## 507   male     group E       some high school    standard
## 508 female     group E       some high school free/reduced
## 509   male     group C           some college    standard
## 510 female     group D              high school    standard
## 511   male     group E           some college free/reduced
## 512 female     group A       some high school    standard
## 513 female     group E    associate's degree    standard
## 514 female     group C       master's degree    standard
## 515 female     group C       some high school    standard
## 516   male     group C     bachelor's degree free/reduced
## 517   male     group B    associate's degree    standard
## 518   male     group B              high school    standard
## 519   male     group B    associate's degree free/reduced
## 520 female     group E     bachelor's degree    standard
## 521   male     group C     bachelor's degree    standard
## 522 female     group C     bachelor's degree    standard
## 523   male     group D    associate's degree    standard
## 524 female     group D              high school    standard
## 525   male     group D           some college free/reduced
## 526 female     group D       master's degree free/reduced
## 527 female     group E           some college    standard
## 528 female     group D           some college    standard
## 529   male     group A    associate's degree free/reduced
## 530 female     group A     bachelor's degree    standard
## 531 female     group C           some college    standard
## 532 female     group D    associate's degree    standard
## 533 female     group B           some college free/reduced
## 534 female     group E       some high school    standard
## 535   male     group D           some college free/reduced
## 536 female     group D     bachelor's degree free/reduced
## 537   male     group E           some college free/reduced
## 538 female     group D       some high school free/reduced
## 539 female     group D              high school    standard
## 540   male     group C     bachelor's degree free/reduced
## 541   male     group B    associate's degree    standard
## 542   male     group B           some college    standard
## 543 female     group E           some college free/reduced
## 544   male     group C    associate's degree    standard
## 545 female     group D              high school    standard
## 546   male     group D    associate's degree    standard
## 547   male     group C              high school    standard
## 548   male     group C           some college free/reduced
## 549 female     group C    associate's degree free/reduced
## 550 female     group D       some high school    standard
```

```
## 551 female        group E                some college    standard
## 552   male        group D                some college    standard
## 553 female        group E              master's degree free/reduced
## 554   male        group E              master's degree free/reduced
## 555   male        group D          associate's degree free/reduced
## 556 female        group D           bachelor's degree free/reduced
## 557   male        group C           bachelor's degree free/reduced
## 558   male        group C                some college free/reduced
## 559 female        group C           bachelor's degree    standard
## 560   male        group E                 high school free/reduced
## 561 female        group D                 high school    standard
## 562 female        group E                 high school    standard
## 563 female        group C            some high school    standard
## 564 female        group C            some high school free/reduced
## 565 female        group D                some college    standard
## 566 female        group B                some college    standard
## 567   male        group E                some college free/reduced
## 568 female        group D                some college    standard
## 569   male        group C                 high school free/reduced
## 570 female        group B                some college    standard
## 571   male        group A          associate's degree free/reduced
## 572 female        group C                 high school    standard
## 573   male        group C          associate's degree free/reduced
## 574 female        group D                some college free/reduced
## 575 female        group D                 high school free/reduced
## 576   male        group A           bachelor's degree    standard
## 577   male        group C                some college    standard
## 578   male        group C             master's degree    standard
## 579 female        group B          associate's degree    standard
## 580 female        group B                 high school free/reduced
## 581   male        group E             master's degree free/reduced
## 582   male        group B                some college free/reduced
## 583 female        group D           bachelor's degree    standard
## 584   male        group B          associate's degree    standard
## 585   male        group C           bachelor's degree    standard
## 586   male        group C                 high school    standard
## 587 female        group B             master's degree    standard
## 588 female        group B                some college    standard
## 589 female        group B          associate's degree    standard
## 590 female        group C                 high school free/reduced
## 591   male        group C          associate's degree free/reduced
## 592 female        group C          associate's degree    standard
## 593 female        group A                 high school    standard
## 594   male        group D           bachelor's degree    standard
## 595 female        group B                some college    standard
## 596 female        group B                some college    standard
## 597 female        group B                 high school free/reduced
```

```
## 598 female        group A            some college    standard
## 599   male        group A      some high school free/reduced
## 600 female        group C      some high school    standard
## 601 female        group C            some college free/reduced
## 602 female        group D             high school    standard
## 603   male        group C             high school    standard
## 604 female        group C    associate's degree    standard
## 605 female        group D      bachelor's degree    standard
## 606   male        group B    associate's degree    standard
## 607   male        group D             high school free/reduced
## 608   male        group D    associate's degree free/reduced
## 609   male        group C      bachelor's degree    standard
## 610   male        group D      some high school    standard
## 611   male        group E    associate's degree free/reduced
## 612 female        group A             high school    standard
## 613 female        group A      bachelor's degree    standard
## 614   male        group C             high school free/reduced
## 615 female        group C             high school    standard
## 616 female        group C             high school    standard
## 617 female        group D             high school    standard
## 618   male        group E             high school free/reduced
## 619   male        group B      some high school    standard
## 620 female        group B      bachelor's degree free/reduced
## 621 female        group D      some high school free/reduced
## 622 female        group D            some college free/reduced
## 623 female        group B            some college    standard
## 624   male        group C    associate's degree free/reduced
## 625 female        group D    associate's degree    standard
## 626 female        group A       master's degree free/reduced
## 627 female        group B       master's degree    standard
## 628 female        group B      bachelor's degree    standard
## 629   male        group D    associate's degree    standard
## 630   male        group C             high school    standard
## 631 female        group B    associate's degree free/reduced
## 632   male        group B      some high school    standard
## 633   male        group B      bachelor's degree free/reduced
## 634   male        group C             high school free/reduced
## 635 female        group D       master's degree    standard
## 636 female        group D       master's degree    standard
## 637   male        group E      bachelor's degree free/reduced
## 638 female        group C            some college    standard
## 639   male        group E             high school    standard
## 640   male        group C    associate's degree    standard
## 641   male        group E      bachelor's degree    standard
## 642   male        group C             high school    standard
## 643   male        group C       master's degree free/reduced
## 644 female        group C             high school    standard
```

```
## 645  female       group C        some high school     standard
## 646    male       group C            some college free/reduced
## 647    male       group D             high school     standard
## 648    male       group D            some college     standard
## 649    male       group D  associate's degree     standard
## 650  female       group B             high school free/reduced
## 651    male       group B             high school     standard
## 652    male       group D  associate's degree free/reduced
## 653  female       group C        some high school     standard
## 654    male       group B            some college free/reduced
## 655  female       group B  associate's degree     standard
## 656    male       group C  associate's degree     standard
## 657  female       group D        some high school     standard
## 658  female       group A  associate's degree free/reduced
## 659    male       group D             high school     standard
## 660    male       group D        some high school free/reduced
## 661  female       group C             high school     standard
## 662  female       group D             high school free/reduced
## 663  female       group C  associate's degree     standard
## 664  female       group C            some college     standard
## 665  female       group B        some high school     standard
## 666  female       group D        some high school     standard
## 667  female       group C            some college     standard
## 668    male       group C             high school free/reduced
## 669    male       group B             high school     standard
## 670    male       group C        some high school     standard
## 671    male       group E             high school     standard
## 672  female       group D        master's degree     standard
## 673  female       group C        some high school free/reduced
## 674  female       group B  associate's degree free/reduced
## 675    male       group B        master's degree     standard
## 676    male       group C  associate's degree     standard
## 677    male       group E  associate's degree free/reduced
## 678  female       group C             high school     standard
## 679  female       group C            some college     standard
## 680    male       group C  associate's degree     standard
## 681    male       group D  associate's degree free/reduced
## 682    male       group C        some high school free/reduced
## 683    male       group D        some high school     standard
## 684    male       group C             high school free/reduced
## 685    male       group C  associate's degree free/reduced
## 686    male       group D             high school     standard
## 687  female       group B            some college free/reduced
## 688    male       group D  associate's degree     standard
## 689  female       group B            some college free/reduced
## 690    male       group C            some college free/reduced
## 691    male       group B   bachelor's degree     standard
```

```
## 692   female        group D          associate's degree free/reduced
## 693   female        group E                 high school     standard
## 694     male        group A                some college     standard
## 695     male        group D                some college     standard
## 696     male        group B          some high school     standard
## 697   female        group C          some high school     standard
## 698     male        group E          associate's degree     standard
## 699     male        group C                some college free/reduced
## 700   female        group C                some college free/reduced
## 701     male        group C          some high school free/reduced
## 702     male        group D          some high school     standard
## 703     male        group D                 high school     standard
## 704     male        group B          some high school     standard
## 705   female        group A                 high school     standard
## 706     male        group D          associate's degree free/reduced
## 707   female        group D           bachelor's degree     standard
## 708   female        group E                 high school     standard
## 709     male        group E                some college free/reduced
## 710     male        group C          some high school     standard
## 711   female        group B                 high school     standard
## 712     male        group E                 high school free/reduced
## 713     male        group C          associate's degree free/reduced
## 714   female        group E            master's degree     standard
## 715   female        group C          some high school     standard
## 716     male        group D          some high school     standard
## 717   female        group B                some college     standard
## 718     male        group D                 high school free/reduced
## 719   female        group A          some high school free/reduced
## 720   female        group E          some high school free/reduced
## 721     male        group B                some college free/reduced
## 722   female        group A                some college     standard
## 723   female        group B          some high school     standard
## 724     male        group D                 high school free/reduced
## 725     male        group D                 high school free/reduced
## 726     male        group C          associate's degree     standard
## 727     male        group D           bachelor's degree     standard
## 728     male        group E                 high school     standard
## 729     male        group B                some college free/reduced
## 730   female        group B          some high school free/reduced
## 731     male        group E                some college free/reduced
## 732   female        group D                some college     standard
## 733     male        group E          associate's degree     standard
## 734     male        group C          associate's degree free/reduced
## 735   female        group B          some high school free/reduced
## 736   female        group B            master's degree     standard
## 737     male        group C          associate's degree     standard
## 738     male        group D          associate's degree     standard
```

```
## 739  female    group B         high school     standard
## 740  female    group E  associate's degree      standard
## 741    male    group B        some college      standard
## 742  female    group B   bachelor's degree      standard
## 743  female    group D        some college      standard
## 744  female    group E         high school free/reduced
## 745    male    group C  associate's degree free/reduced
## 746    male    group C        some college      standard
## 747  female    group C         high school free/reduced
## 748  female    group A         high school      standard
## 749    male    group C   bachelor's degree      standard
## 750  female    group B         high school free/reduced
## 751    male    group C        some college      standard
## 752  female    group D   bachelor's degree      standard
## 753    male    group E         high school      standard
## 754    male    group D  associate's degree free/reduced
## 755  female    group A     master's degree      standard
## 756  female    group D         high school      standard
## 757  female    group D     master's degree      standard
## 758    male    group D         high school      standard
## 759    male    group D         high school free/reduced
## 760  female    group B        some college free/reduced
## 761  female    group B         high school free/reduced
## 762    male    group C    some high school      standard
## 763    male    group C     master's degree      standard
## 764  female    group C  associate's degree free/reduced
## 765  female    group C    some high school      standard
## 766    male    group C    some high school      standard
## 767  female    group B         high school free/reduced
## 768  female    group D        some college      standard
## 769    male    group A        some college free/reduced
## 770  female    group D        some college      standard
## 771    male    group B    some high school free/reduced
## 772  female    group C     master's degree      standard
## 773  female    group C  associate's degree      standard
## 774    male    group C         high school      standard
## 775    male    group A        some college free/reduced
## 776  female    group C    some high school free/reduced
## 777    male    group C         high school free/reduced
## 778    male    group E  associate's degree      standard
## 779    male    group C     master's degree free/reduced
## 780    male    group C  associate's degree free/reduced
## 781  female    group A   bachelor's degree      standard
## 782  female    group D   bachelor's degree      standard
## 783  female    group D   bachelor's degree      standard
## 784    male    group E  associate's degree free/reduced
## 785  female    group A  associate's degree      standard
```

```
## 786   male     group B         bachelor's degree free/reduced
## 787   male     group D        some high school    standard
## 788 female     group D            some college    standard
## 789   male     group D             high school    standard
## 790   male     group C        some high school free/reduced
## 791 female     group C         master's degree free/reduced
## 792 female     group C             high school    standard
## 793 female     group D            some college    standard
## 794   male     group D            some college free/reduced
## 795   male     group E       bachelor's degree    standard
## 796 female     group A         master's degree free/reduced
## 797   male     group D     associate's degree free/reduced
## 798   male     group B     associate's degree    standard
## 799   male     group C            some college    standard
## 800   male     group C             high school free/reduced
## 801   male     group D             high school    standard
## 802 female     group C        some high school    standard
## 803 female     group B            some college    standard
## 804   male     group A            some college    standard
## 805   male     group C             high school    standard
## 806   male     group C     associate's degree    standard
## 807 female     group D     associate's degree free/reduced
## 808 female     group D         master's degree    standard
## 809 female     group C         master's degree free/reduced
## 810 female     group C            some college    standard
## 811 female     group C        some high school    standard
## 812   male     group B         master's degree free/reduced
## 813   male     group D     associate's degree    standard
## 814   male     group D            some college    standard
## 815   male     group D            some college    standard
## 816 female     group D             high school    standard
## 817 female     group C     associate's degree    standard
## 818   male     group B         master's degree    standard
## 819 female     group D        some high school    standard
## 820 female     group C            some college free/reduced
## 821 female     group C        some high school    standard
## 822   male     group D             high school    standard
## 823 female     group B         master's degree    standard
## 824   male     group D         master's degree    standard
## 825   male     group C             high school    standard
## 826   male     group E     associate's degree    standard
## 827 female     group A       bachelor's degree    standard
## 828 female     group C     associate's degree free/reduced
## 829   male     group E        some high school    standard
## 830 female     group E             high school free/reduced
## 831   male     group B         master's degree free/reduced
## 832   male     group C            some college    standard
```

```
## 833 female          group D          some college free/reduced
## 834   male          group A      master's degree     standard
## 835 female          group B          some college     standard
## 836 female          group B      some high school     standard
## 837 female          group C      some high school free/reduced
## 838   male          group A          high school     standard
## 839   male          group D  associate's degree free/reduced
## 840   male          group E          some college     standard
## 841   male          group C  associate's degree free/reduced
## 842 female          group E  associate's degree free/reduced
## 843   male          group A          some college     standard
## 844   male          group D      master's degree     standard
## 845 female          group D  associate's degree free/reduced
## 846   male          group C      some high school     standard
## 847 female          group E  associate's degree free/reduced
## 848 female          group C  associate's degree     standard
## 849   male          group E          high school     standard
## 850 female          group B   bachelor's degree free/reduced
## 851   male          group A          high school     standard
## 852   male          group A  associate's degree     standard
## 853   male          group C      some high school     standard
## 854   male          group D          some college     standard
## 855   male          group D   bachelor's degree     standard
## 856 female          group D      master's degree     standard
## 857   male          group C      some high school free/reduced
## 858 female          group C      master's degree     standard
## 859 female          group D      some high school     standard
## 860 female          group D          high school     standard
## 861   male          group C   bachelor's degree     standard
## 862 female          group D          some college     standard
## 863   male          group C   bachelor's degree     standard
## 864   male          group C          some college     standard
## 865 female          group E          high school free/reduced
## 866   male          group B      some high school free/reduced
## 867   male          group C   bachelor's degree     standard
## 868 female          group B   bachelor's degree free/reduced
## 869   male          group B      master's degree free/reduced
## 870   male          group D          high school     standard
## 871 female          group B          high school free/reduced
## 872   male          group D          some college     standard
## 873 female          group E          high school free/reduced
## 874   male          group D   bachelor's degree     standard
## 875   male          group C   bachelor's degree     standard
## 876 female          group C      some high school free/reduced
## 877 female          group B          high school     standard
## 878   male          group E          some college free/reduced
## 879 female          group C   bachelor's degree     standard
```

```
## 880   male     group C    some high school     standard
## 881  female    group A         some college free/reduced
## 882   male     group B      master's degree     standard
## 883  female    group B   associate's degree     standard
## 884  female    group B         some college     standard
## 885   male     group A         some college     standard
## 886   male     group B          high school free/reduced
## 887   male     group E   associate's degree free/reduced
## 888  female    group B   associate's degree free/reduced
## 889  female    group B   associate's degree     standard
## 890  female    group B         some college free/reduced
## 891   male     group B          high school free/reduced
## 892   male     group D          high school     standard
## 893   male     group E         some college free/reduced
## 894   male     group D   associate's degree free/reduced
## 895   male     group E   associate's degree     standard
## 896  female    group B      master's degree     standard
## 897   male     group C          high school free/reduced
## 898  female    group C    some high school free/reduced
## 899  female    group E         some college     standard
## 900   male     group C    some high school free/reduced
## 901   male     group B    some high school     standard
## 902  female    group E          high school free/reduced
## 903   male     group A         some college     standard
## 904   male     group D          high school free/reduced
## 905   male     group E   bachelor's degree free/reduced
## 906   male     group B   associate's degree     standard
## 907  female    group B   associate's degree     standard
## 908   male     group C          high school     standard
## 909  female    group C         some college free/reduced
## 910   male     group D         some college     standard
## 911  female    group D    some high school free/reduced
## 912  female    group A   associate's degree     standard
## 913  female    group D      master's degree free/reduced
## 914  female    group C         some college     standard
## 915   male     group D          high school     standard
## 916  female    group B         some college free/reduced
## 917   male     group D          high school     standard
## 918   male     group E          high school free/reduced
## 919   male     group C    some high school     standard
## 920  female    group B   associate's degree     standard
## 921  female    group B   associate's degree     standard
## 922  female    group C         some college free/reduced
## 923   male     group D         some college     standard
## 924   male     group C   associate's degree     standard
## 925  female    group E    some high school     standard
## 926   male     group E          high school free/reduced
```

```
## 927    male      group C      associate's degree     standard
## 928    male      group C       bachelor's degree free/reduced
## 929    male      group D      associate's degree     standard
## 930  female      group C         master's degree     standard
## 931  female      group D        some high school     standard
## 932    male      group E      associate's degree free/reduced
## 933    male      group E             high school free/reduced
## 934    male      group D      associate's degree free/reduced
## 935  female      group C         master's degree     standard
## 936    male      group D        some high school     standard
## 937  female      group D        some high school     standard
## 938  female      group B             high school     standard
## 939    male      group A             high school free/reduced
## 940    male      group D       bachelor's degree free/reduced
## 941    male      group E      associate's degree free/reduced
## 942  female      group D            some college     standard
## 943  female      group C             high school     standard
## 944    male      group C      associate's degree free/reduced
## 945  female      group C      associate's degree     standard
## 946    male      group A            some college free/reduced
## 947  female      group D             high school     standard
## 948  female      group B            some college     standard
## 949    male      group E        some high school free/reduced
## 950  female      group D        some high school     standard
## 951    male      group C        some high school     standard
## 952    male      group D       bachelor's degree     standard
## 953  female      group C       bachelor's degree     standard
## 954    male      group B      associate's degree     standard
## 955  female      group C             high school     standard
## 956    male      group D      associate's degree     standard
## 957    male      group C             high school     standard
## 958    male      group E       bachelor's degree free/reduced
## 959  female      group D            some college     standard
## 960    male      group D         master's degree     standard
## 961    male      group C      associate's degree     standard
## 962    male      group B         master's degree     standard
## 963    male      group B        some high school     standard
## 964  female      group D        some high school     standard
## 965    male      group E       bachelor's degree     standard
## 966  female      group E       bachelor's degree     standard
## 967  female      group A        some high school free/reduced
## 968  female      group E         master's degree free/reduced
## 969  female      group B        some high school free/reduced
## 970    male      group B             high school     standard
## 971  female      group D        some high school     standard
## 972    male      group C        some high school     standard
## 973  female      group E      associate's degree     standard
```

```
## 974    male   group C    associate's degree    standard
## 975  female   group B      some high school    standard
## 976    male   group C    associate's degree    standard
## 977  female   group B         some college free/reduced
## 978  female   group C      some high school free/reduced
## 979    male   group C           high school free/reduced
## 980  female   group B    bachelor's degree free/reduced
## 981  female   group C      some high school free/reduced
## 982    male   group C         some college    standard
## 983    male   group C       master's degree free/reduced
## 984    male   group A      some high school    standard
## 985  female   group D           high school    standard
## 986    male   group E    associate's degree    standard
## 987    male   group E         some college free/reduced
## 988    male   group A         some college    standard
## 989  female   group B         some college    standard
## 990    male   group D         some college    standard
## 991    male   group D         some college    standard
## 992  female   group C    associate's degree    standard
## 993    male   group C         some college    standard
## 994  female   group A    associate's degree    standard
## 995    male   group E           high school free/reduced
## 996    male   group C           high school    standard
## 997    male   group D    associate's degree free/reduced
## 998  female   group C      some high school free/reduced
## 999  female   group C         some college    standard
## 1000   male   group A         some college    standard
##      test.preparation.course math.score reading.score writing.score
## 1              completed         67            67            63
## 2                   none         40            59            55
## 3                   none         59            60            50
## 4                   none         77            78            68
## 5              completed         78            73            68
## 6                   none         63            77            76
## 7                   none         62            59            63
## 8              completed         93            88            84
## 9                   none         63            56            65
## 10                  none         47            42            45
## 11             completed         99            83            85
## 12             completed         80            87            90
## 13             completed         77            87            85
## 14             completed         74            74            73
## 15             completed         81            87            85
## 16                  none         69            61            57
## 17                  none         58            47            42
## 18             completed         54            62            65
## 19                  none         23            44            44
```

```
## 20                none      39       32       31
## 21                none      83       76       88
## 22                none      58       52       55
## 23           completed      71       69       73
## 24                none      44       55       54
## 25                none      46       38       32
## 26                none      51       45       42
## 27                none      53       60       56
## 28                none      71       68       60
## 29           completed      74       89       89
## 30                none      33       54       51
## 31                none      87       79       77
## 32                none      78       74       73
## 33           completed      40       41       39
## 34           completed      65       65       71
## 35           completed      79       88       89
## 36                none      68       74       74
## 37           completed      57       77       75
## 38                none      67       65       54
## 39           completed      58       68       73
## 40                none      98       81       77
## 41                none      54       75       72
## 42                none      77       67       64
## 43           completed      87       79       82
## 44                none      58       70       70
## 45                none     100       88       87
## 46                none      60       46       51
## 47                none      64       63       57
## 48           completed      65       76       78
## 49                none      68       72       73
## 50           completed      60       63       57
## 51                none      65       68       64
## 52                none      52       58       60
## 53                none      74       81       85
## 54                none      36       53       49
## 55                none      57       57       47
## 56           completed      56       60       62
## 57           completed      67       80       84
## 58           completed      88       87       83
## 59                none      42       61       51
## 60                none      68       51       48
## 61                none      76       66       68
## 62                none      58       63       59
## 63           completed      69       67       62
## 64           completed      77       82       78
## 65           completed      83       93       97
## 66           completed      49       74       70
```

##				
## 67	none	71	60	56
## 68	none	47	46	49
## 69	none	79	64	60
## 70	none	60	64	57
## 71	completed	56	68	73
## 72	none	57	52	47
## 73	none	49	70	63
## 74	completed	79	76	81
## 75	none	71	76	67
## 76	none	71	77	70
## 77	none	47	63	59
## 78	none	72	91	81
## 79	none	78	73	76
## 80	none	54	43	45
## 81	none	46	59	62
## 82	none	31	38	42
## 83	none	51	59	59
## 84	completed	78	76	73
## 85	none	32	41	39
## 86	none	53	71	69
## 87	none	63	76	69
## 88	none	97	93	88
## 89	none	56	52	61
## 90	none	72	76	72
## 91	none	57	47	42
## 92	none	74	71	70
## 93	none	81	81	87
## 94	completed	94	87	93
## 95	none	81	73	72
## 96	completed	58	63	67
## 97	completed	95	100	100
## 98	none	45	52	49
## 99	none	63	50	49
## 100	none	60	54	53
## 101	completed	54	61	62
## 102	completed	75	78	79
## 103	none	79	78	77
## 104	none	66	67	67
## 105	none	47	58	58
## 106	none	70	78	82
## 107	none	82	74	73
## 108	none	56	38	44
## 109	none	92	78	71
## 110	none	30	33	33
## 111	completed	79	88	86
## 112	none	41	52	47
## 113	none	63	82	71

## 114	none	43	34	33
## 115	none	77	76	74
## 116	completed	76	79	76
## 117	none	49	61	63
## 118	completed	59	57	55
## 119	none	59	70	58
## 120	completed	76	90	87
## 121	completed	55	71	71
## 122	completed	78	87	89
## 123	completed	51	53	62
## 124	completed	41	43	45
## 125	none	74	78	86
## 126	none	62	54	58
## 127	none	77	71	64
## 128	none	45	52	45
## 129	completed	100	84	87
## 130	completed	83	95	100
## 131	completed	77	75	82
## 132	completed	66	70	64
## 133	none	65	63	57
## 134	none	62	55	56
## 135	none	55	54	54
## 136	none	73	78	69
## 137	completed	73	81	76
## 138	completed	48	66	68
## 139	none	52	44	49
## 140	none	60	72	64
## 141	none	68	63	57
## 142	none	65	77	83
## 143	none	86	83	87
## 144	none	55	62	60
## 145	completed	80	71	68
## 146	none	51	57	57
## 147	completed	63	61	66
## 148	none	60	55	46
## 149	completed	100	100	100
## 150	none	46	44	44
## 151	completed	67	78	80
## 152	none	54	67	59
## 153	none	63	79	76
## 154	none	68	66	73
## 155	none	54	63	58
## 156	none	43	44	47
## 157	none	64	64	59
## 158	none	92	87	87
## 159	none	82	95	93
## 160	none	84	78	79

## 161	completed	84	98	97
## 162	none	65	63	65
## 163	none	83	92	91
## 164	completed	70	75	75
## 165	completed	66	72	70
## 166	completed	71	87	92
## 167	none	66	64	58
## 168	completed	57	64	68
## 169	none	86	90	93
## 170	none	80	85	83
## 171	none	62	60	59
## 172	none	71	71	76
## 173	completed	57	66	71
## 174	completed	69	64	62
## 175	completed	83	74	72
## 176	none	50	56	60
## 177	none	55	56	56
## 178	none	55	53	51
## 179	completed	83	93	95
## 180	completed	89	87	86
## 181	none	51	62	64
## 182	none	48	52	49
## 183	none	84	95	89
## 184	none	69	83	76
## 185	completed	75	85	87
## 186	none	91	100	99
## 187	none	76	77	67
## 188	none	63	61	59
## 189	none	73	65	64
## 190	completed	52	63	53
## 191	completed	58	57	53
## 192	none	33	51	51
## 193	none	68	62	61
## 194	completed	77	91	89
## 195	none	64	64	66
## 196	none	39	49	48
## 197	none	50	46	48
## 198	none	53	57	51
## 199	completed	54	62	70
## 200	none	74	63	65
## 201	completed	50	63	65
## 202	none	55	54	47
## 203	none	77	64	70
## 204	completed	49	64	67
## 205	none	66	83	82
## 206	completed	77	74	75
## 207	completed	74	78	84

## 208	none	85	78	81
## 209	none	77	86	84
## 210	none	64	62	66
## 211	completed	61	69	68
## 212	none	97	88	85
## 213	completed	66	75	70
## 214	none	62	66	64
## 215	completed	64	80	77
## 216	none	55	57	60
## 217	none	53	72	66
## 218	none	71	81	77
## 219	completed	66	59	68
## 220	none	68	61	62
## 221	none	89	90	83
## 222	completed	65	69	74
## 223	none	43	48	44
## 224	none	79	77	83
## 225	none	99	94	97
## 226	none	82	69	72
## 227	completed	35	36	39
## 228	none	61	71	73
## 229	none	76	80	81
## 230	completed	94	83	82
## 231	none	75	90	78
## 232	none	81	75	70
## 233	none	35	44	33
## 234	none	76	74	72
## 235	none	58	79	82
## 236	completed	100	91	90
## 237	none	53	68	64
## 238	none	82	95	96
## 239	none	76	62	64
## 240	completed	83	75	75
## 241	none	72	84	82
## 242	completed	76	76	83
## 243	none	66	64	58
## 244	none	63	65	63
## 245	none	36	34	28
## 246	none	68	74	71
## 247	completed	40	52	42
## 248	none	68	71	61
## 249	completed	56	54	52
## 250	none	74	83	80
## 251	none	53	70	71
## 252	none	88	65	70
## 253	none	67	63	61
## 254	none	60	76	65

## 255	none	51	61	54
## 256	none	53	66	59
## 257	none	80	78	74
## 258	none	69	71	67
## 259	none	64	79	70
## 260	completed	80	87	89
## 261	none	58	72	62
## 262	none	39	46	50
## 263	none	64	56	50
## 264	none	61	66	63
## 265	completed	90	82	88
## 266	none	73	71	64
## 267	none	73	73	70
## 268	none	67	76	77
## 269	none	57	58	62
## 270	none	65	73	72
## 271	none	71	72	71
## 272	none	59	69	72
## 273	completed	74	71	65
## 274	none	93	100	93
## 275	completed	85	93	92
## 276	none	76	83	79
## 277	none	58	72	70
## 278	none	72	77	77
## 279	none	40	49	47
## 280	completed	75	73	66
## 281	none	85	81	80
## 282	completed	100	100	100
## 283	completed	53	65	66
## 284	none	40	42	39
## 285	none	49	49	49
## 286	none	77	80	80
## 287	none	82	89	84
## 288	none	55	48	42
## 289	none	62	71	77
## 290	completed	69	63	59
## 291	none	78	74	76
## 292	completed	71	77	82
## 293	completed	59	71	66
## 294	none	60	75	70
## 295	completed	43	60	60
## 296	none	77	83	86
## 297	none	50	47	46
## 298	none	56	58	52
## 299	none	69	58	50
## 300	none	47	43	39
## 301	none	43	28	24

```
## 302                  none            48              39              40
## 303                  none            55              62              49
## 304                  none            73              68              66
## 305                  none            71              63              66
## 306                  none            54              57              60
## 307                  none            66              61              63
## 308                  none            63              63              67
## 309                  none            66              81              73
## 310             completed            79              80              75
## 311             completed            73              69              70
## 312                  none            36              57              53
## 313                  none            50              48              43
## 314             completed            87              78              80
## 315                  none            71              68              63
## 316             completed            85              87              94
## 317             completed            58              67              64
## 318                  none            86              83              81
## 319                  none            64              86              89
## 320                  none            83              85              79
## 321             completed            58              56              49
## 322             completed            59              83              81
## 323                  none            40              58              54
## 324             completed            82              83              85
## 325                  none            87              84              80
## 326                  none            62              65              64
## 327             completed            76              80              78
## 328                  none            63              69              60
## 329             completed            58              60              59
## 330             completed            61              63              65
## 331                  none            78              69              71
## 332             completed            78              90              81
## 333                  none            56              54              43
## 334                  none            96              83              82
## 335                  none            48              43              40
## 336             completed            70              76              72
## 337                  none            43              68              58
## 338                  none            45              46              49
## 339                  none            58              68              62
## 340             completed            70              73              80
## 341                  none            60              61              58
## 342                  none            52              53              47
## 343                  none            61              62              54
## 344                  none            55              70              61
## 345             completed            80              80              79
## 346                  none            63              60              54
## 347                  none            79              79              87
## 348                  none            74              78              72
```

## 349	completed	46	58	64
## 350	completed	72	88	92
## 351	none	58	64	64
## 352	none	47	50	47
## 353	completed	68	78	84
## 354	completed	68	71	67
## 355	none	65	75	68
## 356	none	50	54	51
## 357	completed	48	71	68
## 358	none	58	60	64
## 359	completed	71	74	68
## 360	completed	58	52	48
## 361	none	66	90	83
## 362	none	44	53	43
## 363	completed	51	63	66
## 364	completed	78	83	77
## 365	none	72	71	65
## 366	none	60	64	67
## 367	none	55	61	60
## 368	none	64	67	64
## 369	none	57	64	60
## 370	none	70	75	74
## 371	completed	84	72	76
## 372	completed	66	71	76
## 373	completed	56	65	73
## 374	completed	59	53	56
## 375	none	87	89	84
## 376	none	73	75	64
## 377	none	85	91	89
## 378	none	49	54	42
## 379	completed	82	87	90
## 380	none	80	90	90
## 381	none	48	51	43
## 382	completed	85	83	94
## 383	completed	70	78	76
## 384	completed	89	84	81
## 385	completed	72	86	79
## 386	none	80	86	87
## 387	none	43	57	50
## 388	completed	54	61	61
## 389	completed	82	82	78
## 390	none	74	80	78
## 391	none	63	62	64
## 392	none	47	56	51
## 393	none	13	29	23
## 394	none	67	58	56
## 395	none	57	59	54

## 396	none	64	78	83
## 397	none	85	100	100
## 398	completed	70	80	86
## 399	completed	90	73	83
## 400	completed	53	70	69
## 401	completed	74	73	75
## 402	completed	61	71	67
## 403	completed	55	74	73
## 404	completed	65	63	66
## 405	none	77	77	79
## 406	none	74	61	56
## 407	none	94	92	85
## 408	completed	54	64	68
## 409	none	52	49	43
## 410	none	73	75	71
## 411	none	81	72	58
## 412	none	62	75	72
## 413	none	55	60	61
## 414	completed	55	61	61
## 415	none	61	62	61
## 416	none	75	70	64
## 417	none	79	65	59
## 418	none	70	70	68
## 419	none	72	65	59
## 420	none	38	46	33
## 421	none	57	71	63
## 422	none	76	71	70
## 423	none	45	45	38
## 424	none	77	73	74
## 425	none	40	39	30
## 426	none	78	83	78
## 427	none	63	65	66
## 428	none	83	70	73
## 429	none	55	52	47
## 430	completed	88	78	76
## 431	none	82	83	85
## 432	none	86	71	71
## 433	none	61	74	72
## 434	completed	78	85	93
## 435	none	67	63	66
## 436	none	83	87	83
## 437	none	68	74	69
## 438	none	53	52	44
## 439	none	91	88	90
## 440	none	67	66	66
## 441	completed	53	64	62
## 442	completed	86	100	100

## 443	completed	75	70	61
## 444	none	55	38	35
## 445	completed	93	86	95
## 446	none	62	71	66
## 447	none	83	76	71
## 448	none	73	72	64
## 449	none	57	52	53
## 450	none	70	75	75
## 451	completed	55	62	64
## 452	none	65	56	51
## 453	completed	76	85	88
## 454	none	59	47	46
## 455	completed	74	73	77
## 456	none	65	59	60
## 457	completed	89	87	89
## 458	none	71	82	82
## 459	completed	63	69	59
## 460	completed	57	55	60
## 461	completed	56	67	56
## 462	completed	49	44	41
## 463	completed	28	44	50
## 464	none	69	73	71
## 465	none	49	62	60
## 466	completed	67	62	58
## 467	completed	74	85	82
## 468	completed	47	67	63
## 469	none	63	63	69
## 470	none	73	51	53
## 471	none	91	94	96
## 472	none	80	87	79
## 473	none	66	73	68
## 474	none	52	48	43
## 475	none	65	71	65
## 476	completed	83	75	71
## 477	none	80	85	78
## 478	none	68	68	59
## 479	completed	68	73	68
## 480	none	62	43	45
## 481	none	76	88	84
## 482	none	77	79	83
## 483	none	83	81	83
## 484	none	71	78	82
## 485	completed	86	91	89
## 486	none	93	96	96
## 487	none	60	64	60
## 488	none	57	56	58
## 489	none	84	79	74

```
## 490            none     66      71      75
## 491            none     85      69      74
## 492       completed     57      68      76
## 493            none     41      49      49
## 494            none     75      76      76
## 495            none     65      63      60
## 496            none     78      65      60
## 497            none     26      34      28
## 498            none     71      64      66
## 499       completed     86      92      93
## 500       completed     89      84      81
## 501            none     53      64      63
## 502            none     87      87      92
## 503            none     71      57      59
## 504            none     77      80      72
## 505       completed     43      48      53
## 506            none     88      91      86
## 507            none     86      76      63
## 508       completed     45      56      55
## 509            none     69      56      57
## 510            none     65      70      72
## 511            none     81      79      71
## 512            none     90      88      86
## 513            none     78      72      71
## 514       completed     71      79      89
## 515            none     75      80      72
## 516            none     70      60      56
## 517            none     54      52      48
## 518            none     49      36      32
## 519       completed     80      82      82
## 520            none     78      89      93
## 521            none     89      77      82
## 522       completed     65      83      82
## 523            none     78      74      71
## 524            none     69      85      78
## 525            none     49      47      48
## 526            none     50      64      66
## 527            none     79      76      71
## 528       completed     89      92      97
## 529       completed     48      61      59
## 530            none     63      67      71
## 531            none     88     100      88
## 532            none     66      73      73
## 533            none     45      59      56
## 534       completed     62      78      73
## 535       completed     74      80      86
## 536            none     82      87      90
```

## 537	completed	83	63	63
## 538	completed	60	72	76
## 539	none	66	73	72
## 540	none	76	66	68
## 541	completed	75	74	76
## 542	completed	77	72	79
## 543	none	82	88	86
## 544	completed	63	59	60
## 545	none	70	85	85
## 546	completed	84	71	76
## 547	completed	68	60	63
## 548	none	56	58	50
## 549	none	37	46	43
## 550	none	49	56	53
## 551	completed	100	100	100
## 552	none	83	68	65
## 553	completed	92	100	98
## 554	none	71	62	66
## 555	completed	72	76	73
## 556	none	37	53	48
## 557	none	35	43	35
## 558	none	69	68	62
## 559	none	65	73	81
## 560	none	56	48	36
## 561	none	40	46	57
## 562	none	60	62	60
## 563	none	57	66	73
## 564	completed	58	62	66
## 565	completed	74	95	94
## 566	none	77	77	83
## 567	none	66	57	53
## 568	completed	62	79	87
## 569	none	29	38	27
## 570	none	70	73	66
## 571	none	67	64	60
## 572	completed	81	91	94
## 573	none	56	50	43
## 574	none	61	79	76
## 575	completed	47	54	56
## 576	completed	88	87	94
## 577	completed	51	52	52
## 578	none	68	60	62
## 579	none	68	71	71
## 580	none	47	49	50
## 581	completed	84	77	82
## 582	none	69	72	68
## 583	completed	52	69	75

```
## 584              none       80        79        79
## 585              none      100        84        88
## 586         completed       53        59        64
## 587         completed       59        73        74
## 588              none       78        96        89
## 589              none       84        87        89
## 590              none       52        72        71
## 591              none       81        78        75
## 592         completed       90        95       100
## 593              none       63        73        66
## 594         completed      100        97       100
## 595              none       56        63        62
## 596              none       46        54        54
## 597         completed       75        85        90
## 598              none       46        51        54
## 599              none       42        40        40
## 600         completed       77        86        90
## 601              none       40        63        56
## 602              none       69        71        76
## 603              none       43        50        45
## 604         completed       69        75        71
## 605         completed       89        93       100
## 606              none       44        34        36
## 607         completed       82        83        77
## 608              none       72        72        65
## 609              none       64        53        50
## 610              none       89        73        70
## 611              none       58        53        54
## 612         completed       63        81        78
## 613              none       54        66        69
## 614         completed       83        78        82
## 615              none       57        74        64
## 616              none       52        47        48
## 617         completed       75        93        97
## 618         completed       67        66        64
## 619              none       58        60        53
## 620              none       63        66        68
## 621              none       49        64        57
## 622              none       38        47        52
## 623         completed       74        85        84
## 624         completed       69        84        82
## 625              none       77        82        80
## 626              none       40        59        59
## 627         completed       96        98       100
## 628              none       85        86        85
## 629              none       85        77        76
## 630              none       72        59        54
```

```
## 631                    none        63          78          73
## 632                    none        58          67          58
## 633                    none        58          64          54
## 634                    none        51          57          53
## 635               completed       100         100         100
## 636                    none        77          84          92
## 637                    none        63          56          56
## 638                    none        64          67          68
## 639                    none       100          82          80
## 640                    none        66          65          65
## 641                    none        87          87          84
## 642                    none        73          72          69
## 643               completed        69          66          65
## 644                    none        62          64          63
## 645                    none        40          48          49
## 646               completed        55          68          60
## 647               completed        77          77          78
## 648               completed        63          70          71
## 649               completed        85          85          91
## 650                    none        30          43          40
## 651                    none        82          77          71
## 652               completed        81          71          70
## 653               completed        92         100          97
## 654                    none        50          48          36
## 655                    none        54          60          56
## 656               completed        76          83          78
## 657                    none        60          68          74
## 658               completed        45          72          66
## 659                    none        80          77          72
## 660                    none        52          45          48
## 661               completed        90          89          97
## 662                    none        53          65          69
## 663                    none        92          95          95
## 664               completed        63          78          75
## 665                    none        71          77          79
## 666                    none        64          70          73
## 667               completed        67          81          89
## 668                    none        63          63          61
## 669                    none        63          53          44
## 670                    none        59          49          46
## 671                    none        49          43          35
## 672                    none        75          84          86
## 673                    none        34          47          45
## 674                    none        53          70          69
## 675                    none        63          56          60
## 676                    none        75          69          65
## 677                    none        63          61          62
```

```
## 678              none      70        72        75
## 679              none      61        73        70
## 680              none      74        61        59
## 681              none      57        49        48
## 682         completed      41        52        47
## 683              none      87        80        76
## 684              none      69        71        62
## 685              none      69        77        70
## 686         completed      58        56        56
## 687         completed      47        69        62
## 688         completed      78        69        71
## 689         completed      54        61        71
## 690              none      36        27        26
## 691         completed      94        92        92
## 692              none      68        84        80
## 693              none      90        88        84
## 694              none      57        57        53
## 695         completed      96        95        90
## 696         completed      68        63        62
## 697         completed      52        64        63
## 698              none      90        76        73
## 699         completed      71        82        75
## 700         completed      58        69        74
## 701              none      41        39        34
## 702         completed      43        37        43
## 703              none      85        70        71
## 704              none      71        72        69
## 705              none      72        70        72
## 706              none      70        62        66
## 707              none      89       100       100
## 708              none      92        86        82
## 709         completed      80        79        81
## 710              none      80        70        60
## 711              none      56        64        59
## 712              none      93        86        73
## 713         completed      49        37        41
## 714              none      59        57        58
## 715         completed      64        74        75
## 716              none      73        66        59
## 717         completed      82        86        90
## 718              none      48        43        41
## 719         completed      51        64        62
## 720         completed      38        46        43
## 721              none      45        50        42
## 722         completed      83        92        95
## 723         completed      45        57        56
## 724              none      66        64        62
```

##	725	completed	60	62	57
##	726	none	49	47	49
##	727	none	80	84	86
##	728	none	75	68	66
##	729	completed	57	68	61
##	730	none	25	36	37
##	731	none	90	87	81
##	732	none	63	70	71
##	733	none	100	91	86
##	734	none	76	68	66
##	735	none	52	58	53
##	736	completed	81	86	93
##	737	completed	90	89	87
##	738	none	83	82	81
##	739	none	61	73	69
##	740	completed	79	69	75
##	741	none	52	53	51
##	742	completed	62	65	67
##	743	none	85	90	84
##	744	completed	74	96	95
##	745	none	83	85	78
##	746	none	78	72	72
##	747	none	41	43	40
##	748	none	77	91	87
##	749	none	95	99	91
##	750	none	50	68	66
##	751	none	74	76	70
##	752	completed	74	93	93
##	753	none	70	62	61
##	754	none	61	59	54
##	755	completed	94	100	100
##	756	none	66	84	77
##	757	none	83	88	93
##	758	none	75	63	60
##	759	completed	56	65	63
##	760	none	66	88	83
##	761	none	61	69	66
##	762	completed	70	79	73
##	763	none	57	59	53
##	764	completed	78	89	90
##	765	none	62	76	67
##	766	completed	64	53	49
##	767	none	55	66	65
##	768	none	72	83	83
##	769	none	49	48	42
##	770	none	62	60	63
##	771	none	76	73	68

```
## 772            completed        73        86        85
## 773            completed        72        76        78
## 774                 none        85        85        76
## 775                 none        71        68        65
## 776                 none        28        38        31
## 777                 none        41        42        38
## 778                 none        78        72        68
## 779                 none        48        52        44
## 780                 none        38        51        47
## 781            completed        91       100       100
## 782                 none        71        81        80
## 783                 none        84        87        92
## 784            completed        63        60        63
## 785            completed        70        78        87
## 786            completed        48        52        57
## 787            completed        68        72        73
## 788                 none        84        84        87
## 789                 none        61        62        60
## 790                 none        62        59        62
## 791                 none        66        78        83
## 792            completed        52        65        71
## 793            completed        68        75        73
## 794            completed        62        68        71
## 795            completed        90        88        84
## 796                 none        42        50        44
## 797            completed        74        90        89
## 798            completed        62        61        61
## 799                 none        56        55        50
## 800                 none        64        52        54
## 801            completed        79        84        80
## 802                 none        44        65        63
## 803            completed        69        94        87
## 804                 none        53        48        48
## 805                 none        74        69        61
## 806                 none        49        55        48
## 807                 none        57        71        71
## 808                 none        61        72        64
## 809                 none        65        88        84
## 810                 none        51        60        52
## 811                 none        49        51        41
## 812                 none        56        65        56
## 813                 none        65        62        63
## 814                 none        70        64        62
## 815                 none        91        95        88
## 816            completed        48        56        64
## 817            completed        94        99       100
## 818                 none        77        76        73
```

```
## 819              none          59          78          75
## 820              none          57          75          70
## 821              none          76          82          74
## 822              none          65          63          64
## 823         completed          75          75          83
## 824              none          70          66          65
## 825         completed          79          79          70
## 826         completed         100         100         100
## 827         completed          83          96          99
## 828              none          70          84          78
## 829         completed          97          80          88
## 830              none          33          32          35
## 831              none          38          40          41
## 832         completed          46          51          47
## 833              none          13          36          37
## 834              none          85          83          78
## 835              none          79          79          80
## 836              none          76          81          79
## 837         completed          53          70          65
## 838         completed          68          70          63
## 839         completed          67          70          70
## 840         completed         100          84          88
## 841              none          54          48          45
## 842              none          72          73          70
## 843         completed          91          97          95
## 844         completed          87          81          86
## 845              none          66          75          74
## 846              none          65          66          64
## 847         completed          41          56          53
## 848              none          67          69          65
## 849              none          94          89          86
## 850         completed          57          70          68
## 851              none          89          83          80
## 852         completed          77          73          80
## 853              none          57          60          50
## 854         completed          72          72          72
## 855         completed          98          94          95
## 856              none          87          97         100
## 857              none          61          57          55
## 858              none          85         100          97
## 859              none          81          85          91
## 860         completed          74          84          79
## 861              none          98          92          90
## 862              none          86          84          89
## 863         completed          85          81          82
## 864              none          68          71          63
## 865         completed          66          78          77
```

```
## 866          completed     75      74      71
## 867          none          79      57      58
## 868          none          59      85      82
## 869          none          60      62      58
## 870          none          69      60      54
## 871          none          49      54      58
## 872          none          62      44      52
## 873          completed      70      84      83
## 874          none          71      57      60
## 875          none          71      69      65
## 876          none          50      59      54
## 877          none          52      55      57
## 878          completed      75      65      66
## 879          none          51      64      63
## 880          none          64      48      50
## 881          completed      65      76      72
## 882          none          99      81      87
## 883          none          60      62      58
## 884          none          70      78      80
## 885          completed      77      76      77
## 886          none          37      28      23
## 887          none          73      73      61
## 888          completed      53      74      75
## 889          none          67      58      62
## 890          none          67      79      80
## 891          none          51      57      50
## 892          completed      64      71      70
## 893          none          55      42      43
## 894          completed      55      39      51
## 895          none          86      77      78
## 896          none          71      88      85
## 897          none          71      63      64
## 898          none          51      67      69
## 899          completed      75      76      85
## 900          none          45      31      27
## 901          none          59      54      48
## 902          none          64      69      68
## 903          completed      78      69      73
## 904          none          59      61      58
## 905          none          80      70      71
## 906          completed      68      82      77
## 907          none          77      81      79
## 908          none          66      67      64
## 909          completed      26      44      46
## 910          completed      80      66      69
## 911          none          48      62      61
## 912          none          52      64      55
```

## 913	none	54	64	64
## 914	completed	59	68	67
## 915	none	77	62	65
## 916	none	64	70	69
## 917	none	83	72	68
## 918	none	70	73	69
## 919	none	72	68	67
## 920	none	83	78	79
## 921	none	52	58	57
## 922	completed	53	73	74
## 923	none	55	55	55
## 924	none	65	63	61
## 925	none	60	67	64
## 926	completed	64	62	59
## 927	none	71	72	69
## 928	completed	61	71	65
## 929	none	61	55	58
## 930	none	65	74	79
## 931	completed	71	83	89
## 932	none	48	49	44
## 933	completed	75	80	75
## 934	none	54	66	65
## 935	none	70	64	65
## 936	none	91	77	72
## 937	completed	33	44	50
## 938	none	45	50	41
## 939	none	45	33	32
## 940	none	62	61	57
## 941	completed	92	79	77
## 942	none	74	75	79
## 943	completed	81	79	83
## 944	none	76	71	66
## 945	completed	57	72	73
## 946	none	63	61	55
## 947	completed	57	62	73
## 948	completed	46	65	64
## 949	completed	49	50	45
## 950	none	54	60	65
## 951	completed	89	87	90
## 952	completed	77	70	78
## 953	none	46	63	60
## 954	completed	66	59	70
## 955	none	48	63	53
## 956	completed	83	76	81
## 957	completed	69	75	74
## 958	none	73	52	54
## 959	none	43	59	59

```
## 960              completed       91       84       83
## 961              completed       49       58       55
## 962                   none       87       86       84
## 963              completed       46       46       44
## 964              completed       63       61       71
## 965                   none      100       83       86
## 966                   none       86       87       89
## 967              completed       55       73       70
## 968                   none       84      100       99
## 969                   none       39       51       48
## 970                   none       67       57       52
## 971              completed       85      100       97
## 972                   none       64       51       44
## 973                   none       81       77       74
## 974                   none       78       71       67
## 975                   none       59       59       58
## 976                   none       74       76       70
## 977              completed       31       29       35
## 978              completed       54       55       65
## 979                   none       51       51       45
## 980              completed       57       65       68
## 981                   none       39       50       49
## 982                   none       64       48       48
## 983              completed       69       79       72
## 984                   none       58       50       47
## 985                   none       63       71       75
## 986                   none       74       73       67
## 987                   none       78       84       77
## 988              completed       78       78       74
## 989                   none       75       76       81
## 990              completed       70       60       65
## 991                   none       67       55       53
## 992                   none       87       93       88
## 993                   none       69       63       66
## 994                   none       58       54       58
## 995              completed       86       82       75
## 996                   none       73       70       65
## 997              completed       85       91       92
## 998                   none       32       35       41
## 999                   none       73       74       82
## 1000             completed       65       60       62
```

#PART B #DESCRIPTIVE STATISTICS FOR NUMERIC VARIABLES

```
summary(my)
```

```
##      gender            race.ethnicity        parental.level.of.education
##   Length:1000          Length:1000           Length:1000
##   Class :character     Class :character      Class :character
##   Mode  :character     Mode  :character      Mode  :character
##
##
##
##      lunch             test.preparation.course   math.score      reading.score
##   Length:1000          Length:1000            Min.   : 13.0   Min.   : 27
##   Class :character     Class :character       1st Qu.: 56.0   1st Qu.: 60
##   Mode  :character     Mode  :character       Median : 66.5   Median : 70
##                                               Mean   : 66.4   Mean   : 69
##                                               3rd Qu.: 77.0   3rd Qu.: 79
##                                               Max.   :100.0   Max.   :100
##   writing.score
##   Min.   : 23.00
##   1st Qu.: 58.00
##   Median : 68.00
##   Mean   : 67.74
##   3rd Qu.: 79.00
##   Max.   :100.00
```

```
mean(my$math.score)
```

```
## [1] 66.396
```

```
median(my$math.score)
```

```
## [1] 66.5
```

```
min(my$math.score)
```

```
## [1] 13
```

```
max(my$math.score)
```

```
## [1] 100
```

```
var(my$math.score)
```

```
## [1] 237.2484
```

```
sd(my$math.score)
```

```
## [1] 15.40287
```

```
str(my$math.score)
```

```
##  int [1:1000] 67 40 59 77 78 63 62 93 63 47 ...
```

#PART C #DESCRIPTIVE STATISTICS FOR QUALITATIVE DATA

```
table(my$reading.score)
```

```
##
##  27  28  29  31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47
##   1   2   2   1   2   2   4   1   4   2   6   4   2   2   4  10  10   3  10   9
##  48  49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67
##  13   9  10  11  19  12  14  11  16  20  13  19  23  23  28  34  32  22  20  15
##  68  69  70  71  72  73  74  75  76  77  78  79  80  81  82  83  84  85  86  87
##  23  22  27  36  28  31  22  21  28  21  31  22  15  16  13  24  21  16  13  24
##  88  89  90  91  92  93  94  95  96  97  98  99 100
##  16   8   9  10   7   8   4   9   4   3   2   2  19
```

```
my$reading.score
```

```
##     [1]  67  59  60  78  73  77  59  88  56  42  83  87  87  74  87  61  47  62
##    [19]  44  32  76  52  69  55  38  45  60  68  89  54  79  74  41  65  88  74
##    [37]  77  65  68  81  75  67  79  70  88  46  63  76  72  63  68  58  81  53
##    [55]  57  60  80  87  61  51  66  63  67  82  93  74  60  46  64  64  68  52
##    [73]  70  76  76  77  63  91  73  43  59  38  59  76  41  71  76  93  52  76
##    [91]  47  71  81  87  73  63 100  52  50  54  61  78  78  67  58  78  74  38
##   [109]  78  33  88  52  82  34  76  79  61  57  70  90  71  87  53  43  78  54
##   [127]  71  52  84  95  75  70  63  55  54  78  81  66  44  72  63  77  83  62
##   [145]  71  57  61  55 100  44  78  67  79  66  63  44  64  87  95  78  98  63
##   [163]  92  75  72  87  64  64  90  85  60  71  66  64  74  56  56  53  93  87
##   [181]  62  52  95  83  85 100  77  61  65  63  57  51  62  91  64  49  46  57
##   [199]  62  63  63  54  64  64  83  74  78  78  86  62  69  88  75  66  80  57
##   [217]  72  81  59  61  90  69  48  77  94  69  36  71  80  83  90  75  44  74
##   [235]  79  91  68  95  62  75  84  76  64  65  34  74  52  71  54  83  70  65
##   [253]  63  76  61  66  78  71  79  87  72  46  56  66  82  71  73  76  58  73
```

```
## [271]  72  69  71 100  93  83  72  77  49  73  81 100  65  42  49  80  89  48
## [289]  71  63  74  77  71  75  60  83  47  58  58  43  28  39  62  68  63  57
## [307]  61  63  81  80  69  57  48  78  68  87  67  83  86  85  56  83  58  83
## [325]  84  65  80  69  60  63  69  90  54  83  43  76  68  46  68  73  61  53
## [343]  62  70  80  60  79  78  58  88  64  50  78  71  75  54  71  60  74  52
## [361]  90  53  63  83  71  64  61  67  64  75  72  71  65  53  89  75  91  54
## [379]  87  90  51  83  78  84  86  86  57  61  82  80  62  56  29  58  59  78
## [397] 100  80  73  70  73  71  74  63  77  61  92  64  49  75  72  75  60  61
## [415]  62  70  65  70  65  46  71  71  45  73  39  83  65  70  52  78  83  71
## [433]  74  85  63  87  74  52  88  66  64 100  70  38  86  71  76  72  52  75
## [451]  62  56  85  47  73  59  87  82  69  55  67  44  44  73  62  62  85  67
## [469]  63  51  94  87  73  48  71  75  85  68  73  43  88  79  81  78  91  96
## [487]  64  56  79  71  69  68  49  76  63  65  34  64  92  84  64  87  57  80
## [505]  48  91  76  56  56  70  79  88  72  79  80  60  52  36  82  89  77  83
## [523]  74  85  47  64  76  92  61  67 100  73  59  78  80  87  63  72  73  66
## [541]  74  72  88  59  85  71  60  58  46  56 100  68 100  62  76  53  43  68
## [559]  73  48  46  62  66  62  95  77  57  79  38  73  64  91  50  79  54  87
## [577]  52  60  71  49  77  72  69  79  84  59  73  96  87  72  78  95  73  97
## [595]  63  54  85  51  40  86  63  71  50  75  93  34  83  72  53  73  53  81
## [613]  66  78  74  47  93  66  60  66  64  47  85  84  82  59  98  86  77  59
## [631]  78  67  64  57 100  84  56  67  82  65  87  72  66  64  48  68  77  70
## [649]  85  43  77  71 100  48  60  83  68  72  77  45  89  65  95  78  77  70
## [667]  81  63  53  49  43  84  47  70  56  69  61  72  73  61  49  52  80  71
## [685]  77  56  69  69  61  27  92  84  88  57  95  63  64  76  82  69  39  37
## [703]  70  72  70  62 100  86  79  70  64  86  37  57  74  66  86  43  64  46
## [721]  50  92  57  64  62  47  84  68  68  36  87  70  91  68  58  86  89  82
## [739]  73  69  53  65  90  96  85  72  43  91  99  68  76  93  62  59 100  84
## [757]  88  63  65  88  69  79  59  89  76  53  66  83  48  60  73  86  76  85
## [775]  68  38  42  72  52  51 100  81  87  60  78  52  72  84  62  59  78  65
## [793]  75  68  88  50  90  61  55  52  84  65  94  48  69  55  71  72  88  60
## [811]  51  65  62  64  95  56  99  76  78  75  82  63  75  66  79 100  96  84
## [829]  80  32  40  51  36  83  79  81  70  70  70  84  48  73  97  81  75  66
## [847]  56  69  89  70  83  73  60  72  94  97  57 100  85  84  92  84  81  71
## [865]  78  74  57  85  62  60  54  44  84  57  69  59  55  65  64  48  76  81
## [883]  62  78  76  28  73  74  58  79  57  71  42  39  77  88  63  67  76  31
## [901]  54  69  69  61  70  82  81  67  44  66  62  64  64  68  62  70  72  73
## [919]  68  78  58  73  55  63  67  62  72  71  55  74  83  49  80  66  64  77
## [937]  44  50  33  61  79  75  79  71  72  61  62  65  50  60  87  70  63  59
## [955]  63  76  75  52  59  84  58  86  46  61  83  87  73 100  51  57 100  51
## [973]  77  71  59  76  29  55  51  65  50  48  79  50  71  73  84  78  76  60
## [991]  55  93  63  54  82  70  91  35  74  60
```

```
table(my$gender)
```

```
##
## female    male
##    483     517
```

```
str(my$reading.score)
```

```
##  int [1:1000] 67 59 60 78 73 77 59 88 56 42 ...
```

#PART D #TRANSFORMING VARIABLES

```
log(my$math.score)
```

```
##     [1] 4.204693 3.688879 4.077537 4.343805 4.356709 4.143135 4.127134 4.532599
##     [9] 4.143135 3.850148 4.595120 4.382027 4.343805 4.304065 4.394449 4.234107
##    [17] 4.060443 3.988984 3.135494 3.663562 4.418841 4.060443 4.262680 3.784190
##    [25] 3.828641 3.931826 3.970292 4.262680 4.304065 3.496508 4.465908 4.356709
##    [33] 3.688879 4.174387 4.369448 4.219508 4.043051 4.204693 4.060443 4.584967
##    [41] 3.988984 4.343805 4.465908 4.060443 4.605170 4.094345 4.158883 4.174387
##    [49] 4.219508 4.094345 4.174387 3.951244 4.304065 3.583519 4.043051 4.025352
##    [57] 4.204693 4.477337 3.737670 4.219508 4.330733 4.060443 4.234107 4.343805
##    [65] 4.418841 3.891820 4.262680 3.850148 4.369448 4.094345 4.025352 4.043051
##    [73] 3.891820 4.369448 4.262680 4.262680 3.850148 4.276666 4.356709 3.988984
##    [81] 3.828641 3.433987 3.931826 4.356709 3.465736 3.970292 4.143135 4.574711
##    [89] 4.025352 4.276666 4.043051 4.304065 4.394449 4.543295 4.394449 4.060443
##    [97] 4.553877 3.806662 4.143135 4.094345 3.988984 4.317488 4.369448 4.189655
##   [105] 3.850148 4.248495 4.406719 4.025352 4.521789 3.401197 4.369448 3.713572
##   [113] 4.143135 3.761200 4.343805 4.330733 3.891820 4.077537 4.077537 4.330733
##   [121] 4.007333 4.356709 3.931826 3.713572 4.304065 4.127134 4.343805 3.806662
##   [129] 4.605170 4.418841 4.343805 4.189655 4.174387 4.127134 4.007333 4.290459
##   [137] 4.290459 3.871201 3.951244 4.094345 4.219508 4.174387 4.454347 4.007333
##   [145] 4.382027 3.931826 4.143135 4.094345 4.605170 3.828641 4.204693 3.988984
##   [153] 4.143135 4.219508 3.988984 3.761200 4.158883 4.521789 4.406719 4.430817
##   [161] 4.430817 4.174387 4.418841 4.248495 4.189655 4.262680 4.189655 4.043051
##   [169] 4.454347 4.382027 4.127134 4.262680 4.043051 4.234107 4.418841 3.912023
##   [177] 4.007333 4.007333 4.418841 4.488636 3.931826 3.871201 4.430817 4.234107
##   [185] 4.317488 4.510860 4.330733 4.143135 4.290459 3.951244 4.060443 3.496508
##   [193] 4.219508 4.343805 4.158883 3.663562 3.912023 3.970292 3.988984 4.304065
##   [201] 3.912023 4.007333 4.343805 3.891820 4.189655 4.343805 4.304065 4.442651
##   [209] 4.343805 4.158883 4.110874 4.574711 4.189655 4.127134 4.158883 4.007333
##   [217] 3.970292 4.262680 4.189655 4.219508 4.488636 4.174387 3.761200 4.369448
##   [225] 4.595120 4.406719 3.555348 4.110874 4.330733 4.543295 4.317488 4.394449
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```
## [729] 4.110874 3.610918 4.394449 4.262680 4.454347 4.189655 3.970292 4.532599
## [737] 4.465908 4.394449 4.234107 4.317488 3.931826 4.204693 4.430817 4.553877
## [745] 4.356709 4.276666 3.688879 4.465908 4.510860 4.189655 4.248495 4.532599
## [753] 4.110874 3.988984 4.605170 4.343805 4.532599 4.094345 4.143135 4.418841
## [761] 4.189655 4.290459 3.970292 4.499810 4.204693 3.891820 4.174387 4.418841
## [769] 3.737670 4.143135 4.219508 4.442651 4.356709 4.330733 4.174387 3.433987
## [777] 3.637586 4.219508 3.784190 3.850148 4.605170 4.382027 4.521789 4.143135
## [785] 4.465908 4.043051 4.290459 4.465908 4.094345 4.127134 4.418841 4.262680
## [793] 4.290459 4.262680 4.430817 3.784190 4.488636 4.110874 3.912023 3.988984
## [801] 4.382027 4.143135 4.465908 3.871201 4.110874 3.871201 4.262680 4.158883
## [809] 4.430817 3.951244 3.713572 4.025352 4.143135 4.127134 4.477337 4.158883
## [817] 4.605170 4.290459 4.317488 4.248495 4.304065 4.158883 4.418841 4.174387
## [825] 4.248495 4.605170 4.595120 4.356709 4.477337 3.555348 3.713572 3.850148
## [833] 3.610918 4.356709 4.382027 4.369448 4.174387 4.143135 4.248495 4.477337
## [841] 3.806662 4.248495 4.553877 4.454347 4.304065 4.158883 3.970292 4.174387
## [849] 4.454347 4.219508 4.382027 4.382027 3.912023 4.276666 4.553877 4.605170
## [857] 4.007333 4.574711 4.510860 4.369448 4.499810 4.488636 4.406719 4.143135
## [865] 4.343805 4.262680 4.060443 4.406719 4.060443 3.988984 4.060443 3.951244
## [873] 4.418841 4.094345 4.174387 3.988984 4.043051 4.189655 4.143135 3.912023
## [881] 4.276666 4.465908 4.060443 4.382027 4.343805 3.135494 4.110874 4.317488
## [889] 4.127134 4.382027 3.912023 4.248495 3.761200 3.931826 4.356709 4.442651
## [897] 4.158883 4.234107 4.442651 3.295837 3.871201 4.219508 4.290459 4.060443
## [905] 4.262680 4.343805 4.369448 4.158883 3.828641 4.234107 4.110874 4.007333
## [913] 4.158883 4.204693 4.174387 4.234107 4.219508 4.234107 4.204693 4.369448
## [921] 4.043051 4.304065 4.007333 4.110874 4.158883 4.077537 4.234107 4.174387
## [929] 4.060443 4.369448 4.488636 3.784190 4.317488 4.174387 4.174387 4.276666
## [937] 3.912023 3.713572 3.465736 4.043051 4.343805 4.369448 4.418841 4.189655
## [945] 4.290459 4.007333 4.290459 4.158883 3.806662 4.174387 4.499810 4.356709
## [953] 4.094345 4.248495 3.970292 4.394449 4.304065 3.988984 4.077537 4.418841
## [961] 4.007333 4.430817 3.784190 4.262680 4.454347 4.488636 4.248495 4.595120
## [969] 3.871201 3.951244 4.574711 3.784190 4.304065 4.204693 4.060443 4.248495
## [977] 3.555348 4.174387 3.806662 4.219508 3.891820 3.871201 4.276666 3.850148
## [985] 4.317488 4.204693 4.343805 4.304065 4.394449 4.174387 3.970292 4.477337
## [993] 4.189655 4.060443 4.317488 4.174387 4.521789 3.713572 4.406719 4.127134
```

```
h<-my$math.score-my$writing.score - min(my$reading.score)/max(my$writing.score)
h
```

```
##    [1]    3.73  -15.27    8.73    8.73    9.73  -13.27   -1.27    8.73   -2.27    1.73
##   [11]   13.73  -10.27   -8.27    0.73   -4.27   11.73   15.73  -11.27  -21.27    7.73
##   [21]   -5.27    2.73   -2.27  -10.27   13.73    8.73   -3.27   10.73  -15.27  -18.27
##   [31]    9.73    4.73    0.73   -6.27  -10.27   -6.27  -18.27   12.73  -15.27   20.73
##   [41]  -18.27   12.73    4.73  -12.27   12.73    8.73    6.73  -13.27   -5.27    2.73
##   [51]    0.73   -8.27  -11.27  -13.27    9.73   -6.27  -17.27    4.73   -9.27   19.73
##   [61]    7.73   -1.27    6.73   -1.27  -14.27  -21.27   14.73   -2.27   18.73    2.73
##   [71]  -17.27    9.73  -14.27   -2.27    3.73    0.73  -12.27   -9.27    1.73    8.73
```

```
##  [81] -16.27 -11.27  -8.27   4.73  -7.27 -16.27  -6.27   8.73  -5.27  -0.27
##  [91]  14.73   3.73  -6.27   0.73   8.73  -9.27  -5.27  -4.27  13.73   6.73
## [101]  -8.27  -4.27   1.73  -1.27 -11.27 -12.27   8.73  11.73  20.73  -3.27
## [111]  -7.27  -6.27  -8.27   9.73   2.73  -0.27 -14.27   3.73   0.73 -11.27
## [121] -16.27 -11.27 -11.27  -4.27 -12.27   3.73  12.73  -0.27  12.73 -17.27
## [131]  -5.27   1.73   7.73   5.73   0.73   3.73  -3.27 -20.27   2.73  -4.27
## [141]  10.73 -18.27  -1.27  -5.27  11.73  -6.27  -3.27  13.73  -0.27   1.73
## [151] -13.27  -5.27 -13.27  -5.27  -4.27  -4.27   4.73   4.73 -11.27   4.73
## [161] -13.27  -0.27  -8.27  -5.27  -4.27 -21.27   7.73 -11.27  -7.27  -3.27
## [171]   2.73  -5.27 -14.27   6.73  10.73 -10.27  -1.27   3.73 -12.27   2.73
## [181] -13.27  -1.27  -5.27  -7.27 -12.27  -8.27   8.73   3.73   8.73  -1.27
## [191]   4.73 -18.27   6.73 -12.27  -2.27  -9.27   1.73   1.73 -16.27   8.73
## [201] -15.27   7.73   6.73 -18.27 -16.27   1.73 -10.27   3.73  -7.27  -2.27
## [211]  -7.27  11.73  -4.27  -2.27 -13.27  -5.27 -13.27  -6.27  -2.27   5.73
## [221]   5.73  -9.27  -1.27  -4.27   1.73   9.73  -4.27 -12.27  -5.27  11.73
## [231]  -3.27  10.73   1.73   3.73 -24.27   9.73 -11.27 -14.27  11.73   7.73
## [241] -10.27  -7.27   7.73  -0.27   7.73  -3.27  -2.27   6.73   3.73  -6.27
## [251] -18.27  17.73   5.73  -5.27  -3.27  -6.27   5.73   1.73  -6.27  -9.27
## [261]  -4.27 -11.27  13.73  -2.27   1.73   8.73   2.73 -10.27  -5.27  -7.27
## [271]  -0.27 -13.27   8.73  -0.27  -7.27  -3.27 -12.27  -5.27  -7.27   8.73
## [281]   4.73  -0.27 -13.27   0.73  -0.27  -3.27  -2.27  12.73 -15.27   9.73
## [291]   1.73 -11.27  -7.27 -10.27 -17.27  -9.27   3.73   3.73  18.73   7.73
## [301]  18.73   7.73   5.73   6.73   4.73  -6.27   2.73  -4.27  -7.27   3.73
## [311]   2.73 -17.27   6.73   6.73   7.73  -9.27  -6.27   4.73 -25.27   3.73
## [321]   8.73 -22.27 -14.27  -3.27   6.73  -2.27  -2.27   2.73  -1.27  -4.27
## [331]   6.73  -3.27  12.73  13.73   7.73  -2.27 -15.27  -4.27  -4.27 -10.27
## [341]   1.73   4.73   6.73  -6.27   0.73   8.73  -8.27   1.73 -18.27 -20.27
## [351]  -6.27  -0.27 -16.27   0.73  -3.27  -1.27 -20.27  -6.27   2.73   9.73
## [361] -17.27   0.73 -15.27   0.73   6.73  -7.27  -5.27  -0.27  -3.27  -4.27
## [371]   7.73 -10.27 -17.27   2.73   2.73   8.73  -4.27   6.73  -8.27 -10.27
## [381]   4.73  -9.27  -6.27   7.73  -7.27  -7.27  -7.27  -7.27   3.73  -4.27
## [391]  -1.27  -4.27 -10.27  10.73   2.73 -19.27 -15.27 -16.27   6.73 -16.27
## [401]  -1.27  -6.27 -18.27  -1.27  -2.27  17.73   8.73 -14.27   8.73   1.73
## [411]  22.73 -10.27  -6.27  -6.27  -0.27  10.73  19.73   1.73  12.73   4.73
## [421]  -6.27   5.73   6.73   2.73   9.73  -0.27  -3.27   9.73   7.73  11.73
## [431]  -3.27  14.73 -11.27 -15.27   0.73  -0.27  -1.27   8.73   0.73   0.73
## [441]  -9.27 -14.27  13.73  19.73  -2.27  -4.27  11.73   8.73   3.73  -5.27
## [451]  -9.27  13.73 -12.27  12.73  -3.27   4.73  -0.27 -11.27   3.73  -3.27
## [461]  -0.27   7.73 -22.27  -2.27 -11.27   8.73  -8.27 -16.27  -6.27  19.73
## [471]  -5.27   0.73  -2.27   8.73  -0.27  11.73   1.73   8.73  -0.27  16.73
## [481]  -8.27  -6.27  -0.27 -11.27  -3.27  -3.27  -0.27  -1.27   9.73  -9.27
## [491]  10.73 -19.27  -8.27  -1.27   4.73  17.73  -2.27   4.73  -7.27   7.73
## [501] -10.27  -5.27  11.73   4.73 -10.27   1.73  22.73 -10.27  11.73  -7.27
## [511]   9.73   3.73   6.73 -18.27   2.73  13.73   5.73  16.73  -2.27 -15.27
## [521]   6.73 -17.27   6.73  -9.27   0.73 -16.27   7.73  -8.27 -11.27  -8.27
## [531]  -0.27  -7.27 -11.27 -11.27 -12.27  -8.27  19.73 -16.27  -6.27   7.73
## [541]  -1.27  -2.27  -4.27   2.73 -15.27   7.73   4.73   5.73  -6.27  -4.27
```
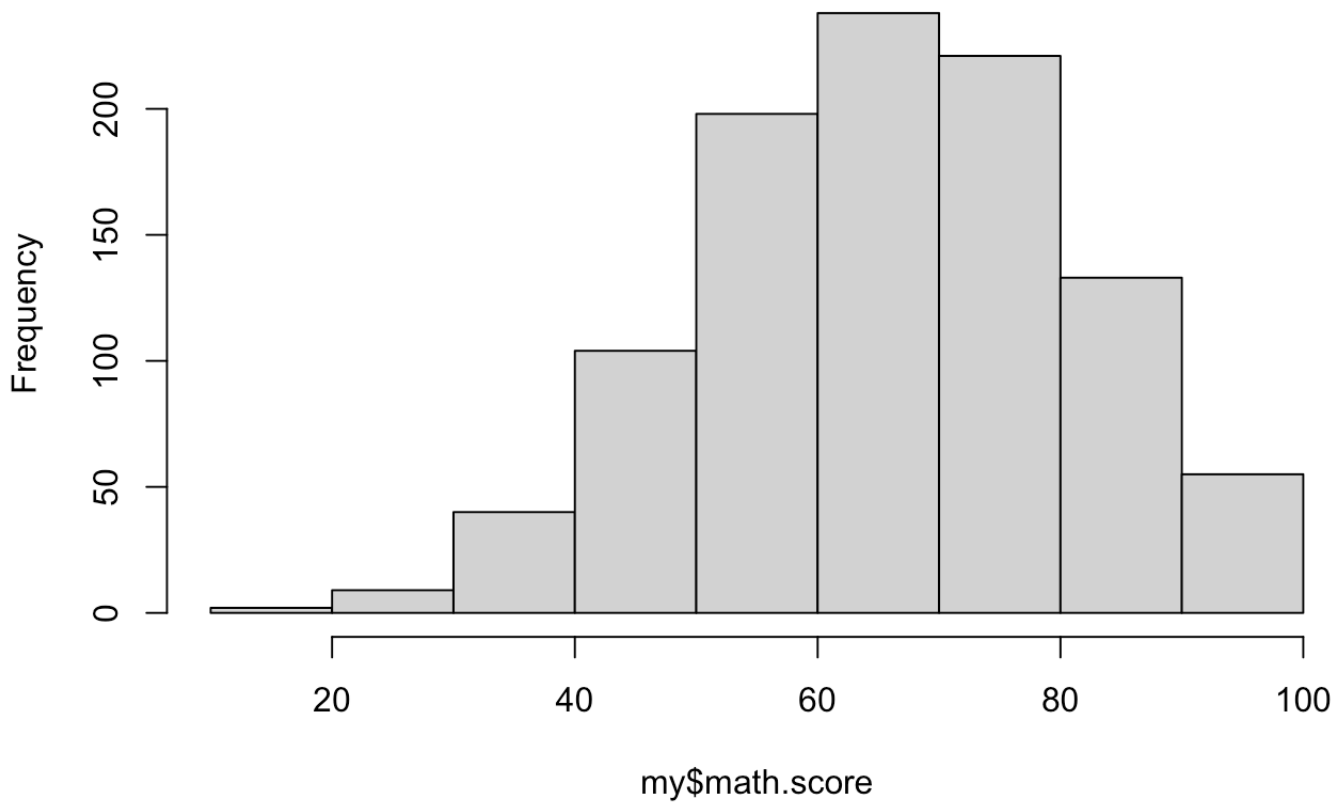
```
## [551]  -0.27  17.73  -6.27   4.73  -1.27 -11.27  -0.27   6.73 -16.27  19.73
## [561] -17.27  -0.27 -16.27  -8.27 -20.27  -6.27  12.73 -25.27   1.73   3.73
## [571]   6.73 -13.27  12.73 -15.27  -9.27  -6.27  -1.27   5.73  -3.27  -3.27
## [581]   1.73   0.73 -23.27   0.73  11.73 -11.27 -15.27 -11.27  -5.27 -19.27
## [591]   5.73 -10.27  -3.27  -0.27  -6.27  -8.27 -15.27  -8.27   1.73 -13.27
## [601] -16.27  -7.27  -2.27  -2.27 -11.27   7.73   4.73   6.73  13.73  18.73
## [611]   3.73 -15.27 -15.27   0.73  -7.27   3.73 -22.27   2.73   4.73  -5.27
## [621]  -8.27 -14.27 -10.27 -13.27  -3.27 -19.27  -4.27  -0.27   8.73  17.73
## [631] -10.27  -0.27   3.73  -2.27  -0.27 -15.27   6.73  -4.27  19.73   0.73
## [641]   2.73   3.73   3.73  -1.27  -9.27  -5.27  -1.27  -8.27  -6.27 -10.27
## [651]  10.73  10.73  -5.27  13.73  -2.27  -2.27 -14.27 -21.27   7.73   3.73
## [661]  -7.27 -16.27  -3.27 -12.27  -8.27  -9.27 -22.27   1.73  18.73  12.73
## [671]  13.73 -11.27 -11.27 -16.27   2.73   9.73   0.73  -5.27  -9.27  14.73
## [681]   8.73  -6.27  10.73   6.73  -1.27   1.73 -15.27   6.73 -17.27   9.73
## [691]   1.73 -12.27   5.73   3.73   5.73   5.73 -11.27  16.73  -4.27 -16.27
## [701]   6.73  -0.27  13.73   1.73  -0.27   3.73 -11.27   9.73  -1.27  19.73
## [711]  -3.27  19.73   7.73   0.73 -11.27  13.73  -8.27   6.73 -11.27  -5.27
## [721]   2.73 -12.27 -11.27   3.73   2.73  -0.27  -6.27   8.73  -4.27 -12.27
## [731]   8.73  -8.27  13.73   9.73  -1.27 -12.27   2.73   1.73  -8.27   3.73
## [741]   0.73  -5.27   0.73 -21.27   4.73   5.73   0.73 -10.27   3.73 -16.27
## [751]   3.73 -19.27   8.73   6.73  -6.27 -11.27 -10.27  14.73  -7.27 -17.27
## [761]  -5.27  -3.27   3.73 -12.27  -5.27  14.73 -10.27 -11.27   6.73  -1.27
## [771]   7.73 -12.27  -6.27   8.73   5.73  -3.27   2.73   9.73   3.73  -9.27
## [781]  -9.27  -9.27  -8.27  -0.27 -17.27  -9.27  -5.27  -3.27   0.73  -0.27
## [791] -17.27 -19.27  -5.27  -9.27   5.73  -2.27 -15.27   0.73   5.73   9.73
## [801]  -1.27 -19.27 -18.27   4.73  12.73   0.73 -14.27  -3.27 -19.27  -1.27
## [811]   7.73  -0.27   1.73   7.73   2.73 -16.27  -6.27   3.73 -16.27 -13.27
## [821]   1.73   0.73  -8.27   4.73   8.73  -0.27 -16.27  -8.27   8.73  -2.27
## [831]  -3.27  -1.27 -24.27   6.73  -1.27  -3.27 -12.27   4.73  -3.27  11.73
## [841]   8.73   1.73  -4.27   0.73  -8.27   0.73 -12.27   1.73   7.73 -11.27
## [851]   8.73  -3.27   6.73  -0.27   2.73 -13.27   5.73 -12.27 -10.27  -5.27
## [861]   7.73  -3.27   2.73   4.73 -11.27   3.73  20.73 -23.27   1.73  14.73
## [871]  -9.27   9.73 -13.27  10.73   5.73  -4.27  -5.27   8.73 -12.27  13.73
## [881]  -7.27  11.73   1.73 -10.27  -0.27  13.73  11.73 -22.27   4.73 -13.27
## [891]   0.73  -6.27  11.73   3.73   7.73 -14.27   6.73 -18.27 -10.27  17.73
## [901]  10.73  -4.27   4.73   0.73   8.73  -9.27  -2.27   1.73 -20.27  10.73
## [911] -13.27  -3.27 -10.27  -8.27  11.73  -5.27  14.73   0.73   4.73   3.73
## [921]  -5.27 -21.27  -0.27   3.73  -4.27   4.73   1.73  -4.27   2.73 -14.27
## [931] -18.27   3.73  -0.27 -11.27   4.73  18.73 -17.27   3.73  12.73   4.73
## [941]  14.73  -5.27  -2.27   9.73 -16.27   7.73 -16.27 -18.27   3.73 -11.27
## [951]  -1.27  -1.27 -14.27  -4.27  -5.27   1.73  -5.27  18.73 -16.27   7.73
## [961]  -6.27   2.73   1.73  -8.27  13.73  -3.27 -15.27 -15.27  -9.27  14.73
## [971] -12.27  19.73   6.73  10.73   0.73   3.73  -4.27 -11.27   5.73 -11.27
## [981] -10.27  15.73  -3.27  10.73 -12.27   6.73   0.73   3.73  -6.27   4.73
## [991]  13.73  -1.27   2.73  -0.27  10.73   7.73  -7.27  -9.27  -9.27   2.73
```

PART E #PLOTTING THE VARIABLE

```
hist(my$math.score,main="HISTOGRAM OF math.score")
```

HISTOGRAM OF math.score

#PART F #SCATTER PLOT

```
plot(my$math.score,my$reading.score,main="scatterplot")
```

scatterplot