A boring (academic) title or a clever title?
A secondary title

YOUR NAME HERE *Washington State University*

In this article we compare the *empirical characteristic function* (Tukey 1977; Becker et al. 1988) to a *moment-generating-functional form* to compute the proportion of hypotheses m that are rejected under the null hypothesis. Here is a second paragraph of the abstract (if necessary), and with the pipe notation it doesn't

break. Notice it still needs to be indented. Generally, we write this abstract last. Often it is called the

executive summary. It should succinctly summarize the entire document. You can include references such as this one to the Appendices section **??** if necessary.

Keywords: multiple comparisons to control; multivariate chi-square distribution; nonlinear growth curves; Richard's curve; simulated critical points

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```
library(devtools);       # required for source_url
path.humanVerseWSU = "https://raw.githubusercontent.com/MonteShaffer/humanVerseWSU/"
source_url( paste0(path.humanVerseWSU,"master/misc/functions-project-measure.R") );
source_url( paste0(path.humanVerseWSU,"master/humanVerseWSU/R/functions-dataframe.R") );
source_url( paste0(path.humanVerseWSU,"master/humanVerseWSU/R/functions-EDA.R") );
```

```
path.project = "C:/_git_/WSU_STATS419_FALL2020/project-measure/";
path.to.secret = "C:/Users/13608/Dropbox/WSU-419/Fall 2020/__student_access__/_SECRET_/"

measure = utils::read.csv( paste0(path.to.secret, "measure-students.txt"), header=TRUE, quote="", sep="
```

```
# source functions-project-measure.R from my github repository
path.github = "https://raw.githubusercontent.com/minju-lee92/WSU_STATS419_FALL2020/"
source_url( paste0(path.github,"master/functions/functions-project-measure.R") )
```

```
## SHA-1 hash of file is 5aa82ee87a0a62bfc9b04ccc942d44c0cc3ed092
```

```
# covert inches to cm
measureAscm <-convert.inchestocm(measure)
```

Data collapsing Some people have data for a person's "left" and "right" side of the body. The function merge.left.right() takes measurement from the left or right, if one is NA it returns the other. If they both are available, it returns the mean.

```
# build merged left/right value cols
getOne = c("hand.length", "hand.width", "hand.elbow", "elbow.armpit", "arm.reach", "foot.length", "floo
merged.df <-merge.left.right(measureAscm, getOne)
```

```
# remove NAs, duplicates, create categorical variables... etc
cleaned.df = prepareMeasureData(merged.df)
```

Data cleaning

Data creation There may be a few data features you may want to create. I have the "arm span" and information about the "armpits" which would enable you to compute the internal "chest width" (from armpit to armpit). There may be other data you can create in a similar fashion.

Data proportions It is very likely that for each measure row, you would want to create "scaled variables to that person's height", also known as a proportion.

Alternatively, you could scale everything to a person's head height.

Alternatively, you could review lots of different proportions. I suggested at one point that the foot-size and the "upper arm" (elbow-pit to arm-pit) are the same size (some basic Pythagorean theorem could get you there or close).

There are lots of possibilities, all depends on your interests.

- Some say the unit of length of a "one foot" that we now decompose into 12 inches was a function of the actual length of the King's foot in England, and would change when a new King was crowned.
- Another measure of length, the "cubit" is derived from the Latin word for "elbow"
- Galileo Galilei, the famous Italian polymath, literally sold his body parts when he died (quite the entrepreneur). He had extremely long fingers. In the museum in Firenze, they have on display a few of the fingers recovered. Yes, I have seen them https://www.museogalileo.it/it/. Most people miss this museum because they are too busy admiring David's proportions at the nearby Academia Gallery https://en.wikipedia.org/wiki/David_(Michelangelo).

```
# create scaled variables using height
colnum = c(3:7,20:28)
new.colname = c("height/height", "head.height/height", "head.c/height", "arm.span/height", "floor.navel/

v1.df =build.scale.variables(cleaned.df, colnum, new.colname, cleaned.df$height)

#create scaled variables using head.height
colnum2 = c(3:7,20:28)
new.colname2 = c("height/head.height", "head.height/head.height", "head.c/head.height", "arm.span/head.h

v2.df =build.scale.variables(v1.df, colnum2, new.colname2, v1.df$head.height)
v2.df
```

```
##                       data_collector                         person_id
## 1   9c2633aaa2d945bb10608ad13c3a11a9   1cef05bce7879e0ffee01b0cb8d78c32
## 2   9c2633aaa2d945bb10608ad13c3a11a9   7ccb01feee114272ab008022a14ededb
## 3   9c2633aaa2d945bb10608ad13c3a11a9   045e02304948042a658b4faa4bd8e54e
## 4   9c2633aaa2d945bb10608ad13c3a11a9   51e383ff163861b0e2fc71e939a5b118
## 5   9c2633aaa2d945bb10608ad13c3a11a9   6d672001f80f375570c44439c540bebf
## 6   9c2633aaa2d945bb10608ad13c3a11a9   98569fbc2cb9141f60d0ae5cfa7501cb
## 7   9c2633aaa2d945bb10608ad13c3a11a9   8d98590f4401d70a1d0a04293499b87c
## 8   9c2633aaa2d945bb10608ad13c3a11a9   a9b12538812f18facbfcbd5f2c12663b
## 9   9c2633aaa2d945bb10608ad13c3a11a9   7a87fa2f3e4e4ca864a254fef98ecdc0
## 10  9c2633aaa2d945bb10608ad13c3a11a9   8e231231fb1ab2d42c266670295eee16
## 21  6734f5f4f223d589dc4ff361a310c155   13e647076a48ced264cd8452175c2e15
```

```
## 22  6734f5f4f223d589dc4ff361a310c155   1088af35708a5b36f1d4e2bb37acdcb7
## 23  6734f5f4f223d589dc4ff361a310c155   e28999163456cff48b783a89fad8c6d9
## 24  6734f5f4f223d589dc4ff361a310c155   09933344d53a61bf9ad3fbe844e173c8
## 25  6734f5f4f223d589dc4ff361a310c155   8643d013d64405966b262a0280c0b197
## 26  6734f5f4f223d589dc4ff361a310c155   c0e88abe6a0ab110f0f201685c0bd185
## 27  6734f5f4f223d589dc4ff361a310c155   5b31d7eefd327c5296826021dd9a4c56
## 28  6734f5f4f223d589dc4ff361a310c155   bc679a3aec3b015b11b5c33673d58a31
## 29  6734f5f4f223d589dc4ff361a310c155   5ae2cd142c4d754f9cf52879c9df4fc0
## 30  6734f5f4f223d589dc4ff361a310c155   112c745f06b882dc111506a76e90a206
## 31  fd36e2b3ec59dbd996587454cbb59725   789951a2bbfbf299b0822cc8452f236f
## 32  fd36e2b3ec59dbd996587454cbb59725   e4a78a4c43790b174d1132cc72ff8829
## 33  fd36e2b3ec59dbd996587454cbb59725   02fd0c9a5c0a52e64e487541c668dbb8
## 34  fd36e2b3ec59dbd996587454cbb59725   9f719255d46dd8b9b07935d891dc5295
## 35  fd36e2b3ec59dbd996587454cbb59725   06101d4bde60d0ea415206d4ba04572c
## 36  fd36e2b3ec59dbd996587454cbb59725   7a0dee5e063bbcbcd68e6e60eb0d8ac2
## 37  fd36e2b3ec59dbd996587454cbb59725   993be15b8f3ea1fb344718d12c4073fc
## 38  fd36e2b3ec59dbd996587454cbb59725   ac11025453a44a174b69354845b985d5
## 39  fd36e2b3ec59dbd996587454cbb59725   21a0357f2ca81fcfc9e5502e6ba4c5de
## 40  fd36e2b3ec59dbd996587454cbb59725   08982a644b08fcabe920861dcf638039
## 41  fd36e2b3ec59dbd996587454cbb59725   7aa407c589c49ea3aa49224367f9aad8
## 75  c51267de031fb6d879a8abf25d260269   1c2408654ef5a2fe1fc962088312266c
## 76  c51267de031fb6d879a8abf25d260269   9b2cfcfa9664443aaa0a5cf1333c7244
## 77  c51267de031fb6d879a8abf25d260269   c45839f19cbf1437468598076cb11a1c
## 78  c51267de031fb6d879a8abf25d260269   5416d60fcbda9d702ccbcee046a3e7cb
## 79  c51267de031fb6d879a8abf25d260269   2420e28d6dd40f144e4484b856092628
## 80  c51267de031fb6d879a8abf25d260269   b4216eec77f3aaf926d1b6a1e1512c8e
## 81  c51267de031fb6d879a8abf25d260269   516c55f4541512c4672db44137aae2c8
## 82  c51267de031fb6d879a8abf25d260269   7b85f0f72fa8b6276a307492ba804025
## 83  c51267de031fb6d879a8abf25d260269   2bb88f446d3a78151df3ae67ad006e10
## 84  c51267de031fb6d879a8abf25d260269   5a4bb89464c07cc514e9f08ac6190e71
## 85  5a2f371a934f22dffcf1e994cb6eca40   3edc9028bcaab791b8790713cf82d280
## 86  5a2f371a934f22dffcf1e994cb6eca40   04b2eeaf9dcd75f5fcaeec08f76603f2
## 87  5a2f371a934f22dffcf1e994cb6eca40   c775bb281e5479508ec125fa644ff065
## 88  5a2f371a934f22dffcf1e994cb6eca40   5d0a00a4553a324b9f14f2eb6820ada4
## 89  5a2f371a934f22dffcf1e994cb6eca40   c7e8ec1734c9626546d613ca12f9dc57
## 90  5a2f371a934f22dffcf1e994cb6eca40   cff864eff9ec76edf5a6606be92b33b5
## 91  5a2f371a934f22dffcf1e994cb6eca40   19e7e29d12d3eec6776a993acdfca999
## 92  5a2f371a934f22dffcf1e994cb6eca40   35d830aeb7087089a94bd6f4c2119268
## 93  5a2f371a934f22dffcf1e994cb6eca40   df2f92f65e0119382722048c0fe1aaa9
## 94  5a2f371a934f22dffcf1e994cb6eca40   5f5158f2a21600d2670ce6c262276efd
## 95  5a2f371a934f22dffcf1e994cb6eca40   4fd772e96e520d598a2d08d5eea733cf
## 96  5a2f371a934f22dffcf1e994cb6eca40   a7ca986d375e45fe72aa5b043c0d207e
## 97  253a0d24ddff7cbe1b9f621870d9d198   ac56ebdc4dda8269a4a2b52a1d6c7850
## 98  253a0d24ddff7cbe1b9f621870d9d198   4303a33a7da3801b36dcde6ff75b6b16
## 99  253a0d24ddff7cbe1b9f621870d9d198   eeead4ca1f5a37e4021d64295eb831e6
## 100 253a0d24ddff7cbe1b9f621870d9d198   dabc021b0e03bcadbd60c3795dd8dc3b
## 101 253a0d24ddff7cbe1b9f621870d9d198   cf4e88b3cd3bcfeb43df3f865747af57
## 102 253a0d24ddff7cbe1b9f621870d9d198   0b36178aaf339b27b19d5f38e97d97ae
## 103 253a0d24ddff7cbe1b9f621870d9d198   be3732e06f96f48a9f6b4aefbc026d42
## 104 253a0d24ddff7cbe1b9f621870d9d198   10bcf9fc27bfb07ff4309230b6e1fd16
## 105 253a0d24ddff7cbe1b9f621870d9d198   bfb025246aab6d98222153d7cf51fdeb
## 106 253a0d24ddff7cbe1b9f621870d9d198   1018deacd9ac4ed7b69c8d393c553459
## 107 feaa341d33cedb0f4f7ec731c84e5ba9   be2c146782bc42ee8a28929e2caae9ba
## 108 feaa341d33cedb0f4f7ec731c84e5ba9   852e3c313e43b1ae48f3d6bb0a6469d3
```

```
## 109 feaa341d33cedb0f4f7ec731c84e5ba9   150f21419f5bb180fd931e2fa8640a70
## 110 feaa341d33cedb0f4f7ec731c84e5ba9   5a0e79f26da0d6937694d62980dac541
## 111 feaa341d33cedb0f4f7ec731c84e5ba9   4bcd32980897662118a17b3483179e82
## 112 feaa341d33cedb0f4f7ec731c84e5ba9   0ab2282a9d538094dbe633278574cec9
## 113 feaa341d33cedb0f4f7ec731c84e5ba9   628888963c3e9ac15557b4f124de3a6b
## 114 feaa341d33cedb0f4f7ec731c84e5ba9   8c19a02ee368d50c1c2e96dca464fcbe
## 115 feaa341d33cedb0f4f7ec731c84e5ba9   71ee1c0873b63a167886a23c02202a18
## 116 feaa341d33cedb0f4f7ec731c84e5ba9   942c9d534c5e455b46f5b337ae1311d9
## 117 4258362c2bb0d1f95b05ba2bb2e71be9   cee86ca062c513efc86eb507151fbc09
## 118 4258362c2bb0d1f95b05ba2bb2e71be9   4733a44073c81970cccbca6e1ede188b
## 119 4258362c2bb0d1f95b05ba2bb2e71be9   719fe28004fcdd81a820602924aa8074
## 120 4258362c2bb0d1f95b05ba2bb2e71be9   61409aa1fd47d4a5332de23cbf59a36f
## 121 4258362c2bb0d1f95b05ba2bb2e71be9   52e10d8b23b93b7467296125130aafa7
## 122 4258362c2bb0d1f95b05ba2bb2e71be9   3a368818b7341d48660e8dd6c5a77dbe
## 123 4258362c2bb0d1f95b05ba2bb2e71be9   cec2224cf8ca637f45a720078b70d4d9
## 124 4258362c2bb0d1f95b05ba2bb2e71be9   4ed967320b733539bfd50c51a5d4748a
## 125 4258362c2bb0d1f95b05ba2bb2e71be9   e6ac6d290a0f25518ae5f1632ba68bfc
## 126 4258362c2bb0d1f95b05ba2bb2e71be9   5052688170956343ecf8371c9921c6be
## 127 97249628ae0697882b877e4aa7342d7b   ba092f0aca4ee5d510274c706a8f336a
## 128 97249628ae0697882b877e4aa7342d7b   6e49f3355a5580b63869548e9dae7504
## 129 97249628ae0697882b877e4aa7342d7b   af0bc706fca5c47970afe73c144fe6fd
## 130 97249628ae0697882b877e4aa7342d7b   55195b6de48e7e8dcd54f70cad56d8d3
## 131 97249628ae0697882b877e4aa7342d7b   1b83d5da74032b6a750ef12210642eea
## 132 5770652f70c497804729efd7db532dbb   24dbc2b917472b089a5052b23f11f30f
## 133 b8608eb659a59aee98811f385a481369   d52e32f3a96a64786814ae9b5279fbe5
## 134 2c5b39a808b670a7b171c60720597672   61409aa1fd47d4a5332de23cbf59a36f
## 135 92241329bed9cbd825f3e7a67df61906   72d709db357443b9548b485ac9ce705f
## 136 7a0711c2991c4e57e47cfe6fd66a684a   b41832a538fcecc97fcf2bb2fa341429
## 227 5a96f81207a7a619ea2574c7e86cda93   cdfdf4d1cb331c85c789c7401a88d6b3
## 228 5a96f81207a7a619ea2574c7e86cda93   9bca8c56351df29d833cbf3ebcb180a1
## 229 5a96f81207a7a619ea2574c7e86cda93   3cc0689caba082b5c2c86af1e653b567
## 230 5a96f81207a7a619ea2574c7e86cda93   efbf977fb9a7ccfc45ac1b7a0ae898fc
## 231 5a96f81207a7a619ea2574c7e86cda93   7acbdef0e0b5009c22a9f9ea31294de5
## 232 5a96f81207a7a619ea2574c7e86cda93   df09e9a8368e050f75a6f2aa89c2c54c
## 233 5a96f81207a7a619ea2574c7e86cda93   d35f30a55820eb88b89350618eb3a171
## 234 5a96f81207a7a619ea2574c7e86cda93   0a02f10d313ea98a111c9e8323ed385e
## 235 5a96f81207a7a619ea2574c7e86cda93   8fb178c3d24b3f5b762d0c82507fd3ed
## 236 5a96f81207a7a619ea2574c7e86cda93   3409c695fd39d4511ed3dd3d9fa3436f
## 237 a7380c7fdd4f9c977a007c003e42deb8   f041ccb55bdc946d17630b2682f9d2ee
## 238 a7380c7fdd4f9c977a007c003e42deb8   c4d4662080f2500e189e6e0c061d523b
## 239 a7380c7fdd4f9c977a007c003e42deb8   bd1d7b0809e4b4ee9ca307aa5308ea6f
## 240 a7380c7fdd4f9c977a007c003e42deb8   df3939f11965e7e75dbc046cd9af1c67
## 241 a7380c7fdd4f9c977a007c003e42deb8   dee1225ded7171820b3b974f86164a65
## 242 a7380c7fdd4f9c977a007c003e42deb8   aad627aedbaec238fd7f74e3aa3385e5
## 243 a7380c7fdd4f9c977a007c003e42deb8   571163a3f76efb73cd125ef35b44ea4d
## 244 a7380c7fdd4f9c977a007c003e42deb8   3a444f015555e4667dec80fd853a5033
## 245 a7380c7fdd4f9c977a007c003e42deb8   3ce80889b3746a483269fb4554f69517
## 246 a7380c7fdd4f9c977a007c003e42deb8   bf9017d04f72c1b5ba407971fbf61289
## 277 00b0bc50a5d4c23ebdac6e69cebf284d   cb216e6502316d1466d79b4a18b540cf
## 278 07455b8d275697db40dab95a03f3c208   be6fbe0a469c8ba8b4f2c44e0fe6304d
## 279 21130e0e97a7ce7afdd817c223e9ac64   ca9ff114ef0294d44570b2f047017c45
## 280 07455b8d275697db40dab95a03f3c208   d461230a8b9f2893ad1ec16580afbeb2
## 281 00b0bc50a5d4c23ebdac6e69cebf284d   47216f67cbc4c6ce2dc9d6e41550496d
## 282 00b0bc50a5d4c23ebdac6e69cebf284d   b7d7985212d1c5dad1b63a7d529ce904
```

```
## 283 dc4c5f00782773504555c80d9c6dd20f   9a151897ab3979d9320496fa60f3dd09
## 284 cc97268e16b656d42336d456432e1925   c7d12fe45546c973922880529fa8edae
## 285 391737a84a55fb3fc6b1f3e5789cd077   f7c4fadae08200bc74b0fe5368741290
## 286 391737a84a55fb3fc6b1f3e5789cd077   fb5537e142ed55885e711bb28e44bfc4
## 297 58056c4dc037cb0dbba1ad30215034da   2cb006f5af92908e10f658a662e1d5dc
## 298 58056c4dc037cb0dbba1ad30215034da   5b6caf13d5494dbcf97f7cbc08fb4474
## 299 58056c4dc037cb0dbba1ad30215034da   25e38df28480f96f016e14a314fe3c78
## 300 58056c4dc037cb0dbba1ad30215034da   c2a09d55305b52aad95a25a11f4a6e9f
## 301 58056c4dc037cb0dbba1ad30215034da   739d1aeb9df6ab5010aa49d84ffee8ed
## 302 58056c4dc037cb0dbba1ad30215034da   dcb3e11bbe723cfa77314f8e5fd010c7
## 303 58056c4dc037cb0dbba1ad30215034da   b08ccacdf72360c9419bed8e73f81fab
## 304 58056c4dc037cb0dbba1ad30215034da   d4ec69b42a38a9e3bb885e045e50861a
## 305 28c6a87502875ef92990719df72796de   eb85e0caa487a9fd16fac6b15715dcf8
## 306 58056c4dc037cb0dbba1ad30215034da   ee9817b969dbd601e367e777a5de7962
## 307 e7f9de8678dd0388865077403567b45c   967282cd5d3edbae550d1c4ab643f5ce
## 308 e7f9de8678dd0388865077403567b45c   8e244595a666e4311a81757ca88371b8
## 309 e7f9de8678dd0388865077403567b45c   7902ed1386067dae936e6639ba7f85a4
## 310 e7f9de8678dd0388865077403567b45c   6ea4dc5cd6a84ef12b677bbaabc9fc6f
## 311 e7f9de8678dd0388865077403567b45c   4eec8ecba9d91f00de594fa5267d1c98
## 312 e7f9de8678dd0388865077403567b45c   49f34c755408a89228f78967771c175f
## 313 e7f9de8678dd0388865077403567b45c   aacdcaab42f85782dbafce7a5d26b4b1
## 314 e7f9de8678dd0388865077403567b45c   f1b5a149b72512dffa7774d6a793b41b
## 315 e7f9de8678dd0388865077403567b45c   15f97b6406102d4ccf285b8063f39f84
## 316 e7f9de8678dd0388865077403567b45c   0657038008ee10df1a7dc9e8b25e59a0
## 317 b7c953cb6c1f80156d72b012e64c2f5b   830b198e4dbea57bc18d39e4174bd4a4
## 318 b7c953cb6c1f80156d72b012e64c2f5b   839d0778a7469b85de24947ff78d9c15
## 319 b7c953cb6c1f80156d72b012e64c2f5b   d001d856ebdf0decd03d46283237d5d4
## 320 b7c953cb6c1f80156d72b012e64c2f5b   ce9d8ffcc3b2509bdf8bee1e4787b014
## 321 b7c953cb6c1f80156d72b012e64c2f5b   ec53b315cf47f7f0a66e0df9d77fe1b7
## 322 b7c953cb6c1f80156d72b012e64c2f5b   dfe7ac4bf28ba478a59850d3ca63ceb3
## 323 b7c953cb6c1f80156d72b012e64c2f5b   fe37167d943dc7ea355615ecf8c775f9
## 324 b7c953cb6c1f80156d72b012e64c2f5b   a815dbe596b632b4fd406210c97257d5
## 325 b7c953cb6c1f80156d72b012e64c2f5b   2c7416c8b08edd974800bbf4bcbcd6ba
## 326 58056c4dc037cb0dbba1ad30215034da   7a7ad17163012c8f04322273aebfe886
## 327 7e6e6a69493f1d54a74ecdd4058ebadf   68097a6cb16bbb5dbd68f19762081469
## 328 7e6e6a69493f1d54a74ecdd4058ebadf   338c1ca2a3984271538bc74eae7bef6b
## 329 7e6e6a69493f1d54a74ecdd4058ebadf   0c5f10813c5f6befe0da412e67a6aa60
## 330 7e6e6a69493f1d54a74ecdd4058ebadf   2b5ea6f3126404c7e4eda7825bed9899
## 331 7e6e6a69493f1d54a74ecdd4058ebadf   7b57fe76c35503b0a477d287ea00b37f
## 332 7e6e6a69493f1d54a74ecdd4058ebadf   1d6fdbb06fbbf58b46d607cf1685049e
## 333 7e6e6a69493f1d54a74ecdd4058ebadf   a8e17797adc14c4a0d5e471e1c51e978
## 334 7e6e6a69493f1d54a74ecdd4058ebadf   fb0584aba84a3668a9bbf0470fba3076
## 335 7e6e6a69493f1d54a74ecdd4058ebadf   d1c3771b9b322f68e211feb06e6be920
## 337 f697d5c9213997cc167707e4f07a8da8   a97ef9def423fd197a090c1cb628a69f
## 338 f697d5c9213997cc167707e4f07a8da8   3036ed5a46ad4a5a95f1539c3380b842
## 339 f697d5c9213997cc167707e4f07a8da8   425f17c638540b224c07192d531bb3cb
## 340 f697d5c9213997cc167707e4f07a8da8   7c1c7202e4c08021c2f734c5c8e2f087
## 341 f697d5c9213997cc167707e4f07a8da8   92bfa27dc07eba67b807bc12b1718d6f
## 342 f697d5c9213997cc167707e4f07a8da8   6a2b00bf02f70b2f261665b44e22013a
## 343 f697d5c9213997cc167707e4f07a8da8   2fb0249a6780ecbd5fee198521790376
## 344 f697d5c9213997cc167707e4f07a8da8   14298d51dc6aa40726467279e600b416
## 345 f697d5c9213997cc167707e4f07a8da8   d7349aa570a6e2f2211e14679cd3808b
## 346 f697d5c9213997cc167707e4f07a8da8   c17bb12cc856350de9e81e40946d5310
## 347 54da3e417c8efaddfe60f2634e0655ff   fd4c92272d5a952adf7aad11c20458e1
```

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## 348 3278ce887bc37a4d45550d5e8a6d6828   ef1cb6e72d149b184cc241037203f60b
## 350 ae042cc7daa59392f0ae30e0d7efea55   d0fa06cd93335c8cae357ffe5cd1c4e9
## 351 7e7c74a4b3543bfd71fdce2f52df44e2   5d44a032652974c3e53644945a95b126
## 352 18ec34f5d5544bbb34ac03bbd62d61cf   3691308f2a4c2f6983f2880d32e29c84
## 353 4c2954ca87d25ecb003e253dff6485b7   1f2dfa567dcf95833eddf7aec167fec7
## 354 7e01a8e692e1c5459b716e6af849922e   1e7342845e24eb3b5b3554490da1c128
## 355 d4c40ebf6bd149deed005ca123fa3110   051a9911de7b5bbc610b76f4eda834a0
## 356 3a263ca1825c7810dd45e801c9e9f45f Â e2075474294983e013ee4dd2201c7a73
## 357 ed892caec7a86a00ec5fbefdf5f44faf   6ce9c1c0b4443b31753cd40c34000efd
## 358 ed892caec7a86a00ec5fbefdf5f44faf   b133711dfc55c6e89213c01c58d59703
## 359 ed892caec7a86a00ec5fbefdf5f44faf   807d5b3793c7e1f047818dd2611b1589
## 360 ed892caec7a86a00ec5fbefdf5f44faf   a6d6a2fdf86ad4bc8096955a9f05f1ec
## 361 ed892caec7a86a00ec5fbefdf5f44faf   74e358b9e1b44ee6129c7eb3344ee658
## 362 ed892caec7a86a00ec5fbefdf5f44faf   99a156a62a0944ba6887b90d4fd77b15
## 363 ed892caec7a86a00ec5fbefdf5f44faf   48cebdedc0acd343de4853d8e649058d
## 364 ed892caec7a86a00ec5fbefdf5f44faf   fc45e3258bed8dcae88f0dc0b3da94df
## 365 ed892caec7a86a00ec5fbefdf5f44faf   437d461430ecc08e2d51abbcf5ce9b3c
## 366 ed892caec7a86a00ec5fbefdf5f44faf   1ef53b7d22b7e7eafc7c7524078ac709
## 367 86687ae28f9bf74f509bc9cff3e967fe   4e87b49a355ca3040c49e3f513e07a7b
## 368 86687ae28f9bf74f509bc9cff3e967fe   42cf3ac3c39863c610fd0c41888fbcf4
## 369 86687ae28f9bf74f509bc9cff3e967fe   8545c7da3bff6d5e778c19a8e759e351
## 370 86687ae28f9bf74f509bc9cff3e967fe   2264bdbc3a7aae3cb9b76b698f187fcf
## 371 86687ae28f9bf74f509bc9cff3e967fe   0eeb85d58ab4b0dee8fe59e66fd1aa77
## 372 86687ae28f9bf74f509bc9cff3e967fe   1914e0a159363f777885a7f1faca745c
## 373 86687ae28f9bf74f509bc9cff3e967fe   b571d735f163b7bc0d011649a9577981
## 374 86687ae28f9bf74f509bc9cff3e967fe   94d8bb7c1e4e9711d4e3bbb0615216e5
## 375 86687ae28f9bf74f509bc9cff3e967fe   39a76aa6cff34621da972e912ea7437f
## 376 86687ae28f9bf74f509bc9cff3e967fe   aa0f777f2621c645eb8ebc33644c1fc8
## 377 ecfaf244516c0630fcdef6fbabceabbb   c6b2f100d6271c6090f4275221ed6acd
## 378 ecfaf244516c0630fcdef6fbabceabbb   10b30419e35ec26acc14169166056031
## 379 ecfaf244516c0630fcdef6fbabceabbb   a0efd91ed85b6c75933d3381b8cb634f
## 380 67e1e1164469564c1513c6826d7f2372   256797eb19c0fa5688bb135ac9441f2d
## 381 5ec754244f7607ffe7adb8de39646687   8ecc0180e629c0d5450b50a4c9780587
## 382 b5308193c0efcd28009d8b24742fda85   6cbfe40d341ebdb303629ddc4f360e7b
## 383 0e672b35628c692c17853f0c53986f17   5c2f639550d9c99da8a2eefb68a5f1b6
## 384 629993a0da2e6179b41e20bc5f666120   8764c922d792e1b418a3cca4f8dc01f8
## 385 92c08bfae43328e218bb8bb66d0e9a72   5b96477ccce605e4a4ded6b6bf0f6931
## 386 448246f05cc1bd4128b33465736ceecc   89ef50937da644537ff6b0617aa19b30
## 387 18a53b0cfa2bcde3c1d12e74a2e10268   3fce10bbeef92f3fcf4937defb21c93e
## 388 18a53b0cfa2bcde3c1d12e74a2e10268   6a7c9f8d886b5f55dede69fdd6cfbd9d
## 389 18a53b0cfa2bcde3c1d12e74a2e10268   857efaebd410cc6683fb9e077e78222f
## 390 18a53b0cfa2bcde3c1d12e74a2e10268   4c86080cbd757fa1edd60b453d88c744
## 391 18a53b0cfa2bcde3c1d12e74a2e10268   705374c66ddd3501ccffd1d54655411a
## 392 18a53b0cfa2bcde3c1d12e74a2e10268   0fee659d076b30c1c9fbd0ee7da70afb
## 393 18a53b0cfa2bcde3c1d12e74a2e10268   315231a7937b3434f3161307f49d491b
## 394 18a53b0cfa2bcde3c1d12e74a2e10268   9f1e5a14a0baf69bc7d5d658ddb53338
## 395 18a53b0cfa2bcde3c1d12e74a2e10268   d770a59f57acae2bf7e703192ba8ee50
## 396 18a53b0cfa2bcde3c1d12e74a2e10268   ce29d8c585d5abd57d61abc6d1cef92a
## 397 0185c7c2eed9d48197953305a817c8b1   0c22828099b789d62a96fc1f87928f43
## 398 0185c7c2eed9d48197953305a817c8b1   e821ba1edb9dc0a445b61d8ce702052a
## 399 0185c7c2eed9d48197953305a817c8b1   6b34fe24ac2ff8103f6fce1f0da2ef57
## 400 0185c7c2eed9d48197953305a817c8b1   0f91a4e5bcb75e278d54f8cca555cc4b
## 401 0185c7c2eed9d48197953305a817c8b1   10c7ccc7a4f0aff03c915c485565b9da
## 402 0185c7c2eed9d48197953305a817c8b1   559a7f208866f0063b1ea8d5ca2ee816
```

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## 403 0185c7c2eed9d48197953305a817c8b1   a1361cb85be840d6a2d762c68e4910e2
## 404 0185c7c2eed9d48197953305a817c8b1   e6d9c335f6aa36754461e4dd4db30274
## 405 0185c7c2eed9d48197953305a817c8b1   d6ba0682d75eb986237fb6b594f8a31f
## 406 0185c7c2eed9d48197953305a817c8b1   5844a15e76563fedd11840fd6f40ea7b
## 407 b16ae1eae8d7351e997e8faf1f734d2c   6d7edc4358342d5ef92c052cb7c82057
## 408 b16ae1eae8d7351e997e8faf1f734d2c   bba47c925f1a291bc29bd58d19877c27
## 409 b16ae1eae8d7351e997e8faf1f734d2c   90e69f264a8c970f3222cf85e08425aa
## 410 b16ae1eae8d7351e997e8faf1f734d2c   3591727d81b72b421c3725c3b109f713
## 411 b16ae1eae8d7351e997e8faf1f734d2c   9f719255d46dd8b9b07935d891dc5295
## 412 b16ae1eae8d7351e997e8faf1f734d2c   2abb1295467cadf82cc69cc385c8db49
## 413 b16ae1eae8d7351e997e8faf1f734d2c   887bdcd0dc6901a24f30b41cff267176
## 414 b16ae1eae8d7351e997e8faf1f734d2c   90436fcf8fdad8e75690525f0e8a9018
## 415 b16ae1eae8d7351e997e8faf1f734d2c   20e2e65e5810267125bf97cb235becec
## 416 b16ae1eae8d7351e997e8faf1f734d2c   ea6212772478ee71edd91f89af72c134
## 417 d22301490fef91bdc398d00a35c7b790   6c1a5b12d4bd24ab2966ee3f04252c40
## 418 fd540e43a7112f833051d2ed1fdbbbf0   281879078eb44eb9abee3125dfdf224a
## 419 fd540e43a7112f833051d2ed1fdbbbf0   7ec6624767095490c469559de77ae043
## 420 fd540e43a7112f833051d2ed1fdbbbf0   c943d1e478cf04dd55706758ca7307a1
## 421 59944aec47699b65f6a93c79913f64cd   87b84e65079f3a08a474971aa7f355ed
## 422 59944aec47699b65f6a93c79913f64cd   948afe5abf536d9099fd9a93bfa0c54a
## 423 59944aec47699b65f6a93c79913f64cd   53ab2cb9fc172ed0b05789e1cc597e2e
## 424 d441d1e30322901bf7caeee33f0ee9af   5d2dadc6682bf48ce49de8a5015a76bc
## 425 d441d1e30322901bf7caeee33f0ee9af   63f4ed4ecc6dd8196b024634aaba8207
## 426 d441d1e30322901bf7caeee33f0ee9af   8962eb6c602258f23fd34ece0f1a2504
##       height head.height head.circumference arm.span floor.navel  units writing
## 1   152.1000     23.0000                 NA 148.2000          NA     cm   right
## 2   174.0000     22.1000                 NA 167.0000          NA     cm   right
## 3   168.0000     18.0000                 NA 157.0000          NA     cm    left
## 4   164.0000     23.0000                 NA 155.0000          NA     cm   right
## 5   181.0000     26.0000                 NA 183.0000          NA     cm    left
## 6   156.2000     22.5000                 NA 167.5000          NA     cm   right
## 7   154.3000     22.5000                 NA 150.1000          NA     cm   right
## 8   154.3000     23.0000                 NA 151.0000          NA     cm   right
## 9   172.7000     20.0000                 NA 154.0000          NA     cm   right
## 10  164.0000     23.0000                 NA 154.3000          NA     cm   right
## 21  145.0000     18.8000            55.3000 141.7000     86.4000     cm   right
## 22  181.0000     24.3000            58.5000 176.0000    112.5000     cm   right
## 23  152.6000     18.3000            54.7000 159.6000     91.3000     cm   right
## 24  169.5000     21.0000            56.0000 165.0000    105.4000     cm   right
## 25  164.9000     19.1000            57.2000 151.9000     96.0000     cm    left
## 26  153.6000     22.2000            64.0000 161.1000     95.8000     cm   right
## 27  177.8000     20.5000            59.3000 182.8000    104.0000     cm   right
## 28  168.3000     22.2000            58.6000 165.7000    102.0000     cm    left
## 29  170.1000     22.5000            57.7000 168.6000    101.0000     cm   right
## 30  151.6000     19.9000            55.1000 156.0000     94.0000     cm   right
## 31  177.1650     23.4950            56.5150 184.1500    104.7750 inches   right
## 32  113.6650     16.5100            49.5300 109.5375     65.7225 inches    left
## 33  121.2850     17.7800            48.8950 117.4750     70.1675 inches   right
## 34  181.6100     23.4950            59.6900 182.2450    108.2675 inches   right
## 35  161.2900     22.8600            54.6100 160.6550     97.7900 inches    left
## 36  114.3000     15.2400            50.8000 115.8875     65.0875 inches   right
## 37  155.2575     19.0500            55.5625 154.6225     91.4400 inches   right
## 38  166.6875     21.9075            56.1975 167.3225     93.3450 inches   right
## 39  157.4800     22.2250            55.8800 157.4800     93.9800 inches   right
```

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## 40  179.0700     23.1775          58.1025 183.1975    103.5050 inches   right
## 41  158.1150     22.2250          56.8325 160.6550     95.8850 inches   right
## 75  178.0000     21.0000          59.0000 176.0000     98.5000     cm   right
## 76  181.6100     20.3200          58.0000 218.4400    109.0000     cm   right
## 77  175.4000     19.6000          56.0000 211.0000    105.3000     cm   right
## 78  161.0000     18.0000          51.0000 193.0000     96.5000     cm   right
## 79  165.0000     18.5000          53.0000 198.5000     99.0000     cm   right
## 80  186.0000     21.0000          59.0000 224.0000    112.0000     cm   right
## 81  184.0000     20.5000          59.0000 221.0000    110.0000     cm   right
## 82  159.0000     18.0000          52.0000 195.0000     97.0000     cm    left
## 83  185.5000     21.0000          59.0000 223.0000    111.0000     cm   right
## 84  185.0000     21.0000          61.0000 224.0000    111.0000     cm   right
## 85  183.0000     23.0000          58.0000 183.0000    109.0000     cm   right
## 86  166.5000     20.5000          53.5000 164.0000     99.0000     cm   right
## 87  157.5000     23.0000          55.0000 160.0000     90.0000     cm   right
## 88  171.5000     22.0000          53.0000  65.0000    107.0000     cm   right
## 89  178.0000     23.0000          59.0000 171.0000    101.0000     cm   right
## 90  168.0000     20.0000          56.0000 166.0000     99.0000     cm   right
## 91  170.0000     27.0000          56.0000 174.0000     99.0000     cm   right
## 92  178.0000     24.0000          58.0000 180.5000    104.0000     cm    left
## 93  183.0000     25.0000          23.0000 162.0000    108.0000     cm   right
## 94  175.0000     27.0000          56.0000  75.0000    103.0000     cm   right
## 95  161.0000     21.0000          52.0000  61.5000     97.0000     cm   right
## 96  185.0000     24.0000          57.0000 192.0000    109.0000     cm   right
## 97  175.2600     24.1300          58.9280 179.7050     97.7900 inches   right
## 98  160.0200          NA          57.1500 157.4800          NA inches   right
## 99  107.9500          NA          52.0700 104.1400          NA inches   right
## 100  85.0900          NA          49.5300  80.0100          NA inches    both
## 101 160.0200          NA          55.8800 160.0200          NA inches   right
## 102 175.2600          NA          61.4680 167.6400          NA inches    left
## 103 165.1000          NA          58.4200 166.3700          NA inches   right
## 104 165.1000          NA          57.1500 161.9250          NA inches    left
## 105 157.4800          NA          54.6100 162.5600          NA inches   right
## 106 182.8800          NA          59.0550 185.4200          NA inches   right
## 107 175.2600     23.4950          58.4200 180.9750     99.0600     cm   right
## 108 165.1000     21.5900          53.3400 162.5600     92.0000     cm   right
## 109 177.8000     24.7650          58.4200 187.9600     98.0000     cm   right
## 110       NA     22.8600          58.4200       NA          NA     cm   right
## 111       NA     27.9400          55.8800       NA          NA     cm   right
## 112       NA     23.4950          58.4200       NA          NA     cm   right
## 113       NA     22.2250          60.3250       NA          NA     cm   right
## 114       NA     27.9400          60.9600       NA          NA     cm   right
## 115       NA     23.4950          62.2300       NA          NA     cm   right
## 116       NA     26.4160          52.0700       NA          NA     cm   right
## 117 187.9600     23.4950               NA 196.8500          NA     cm   Right
## 118 161.2900     20.3200               NA 158.7500          NA     cm    Left
## 119 147.3200     21.5900               NA 150.4950          NA     cm    Left
## 120 142.8750     21.5900               NA 147.3200          NA     cm   Right
## 121 132.7150     21.5900               NA 134.6200          NA     cm   Right
## 122 157.4800     21.5900               NA 133.3500          NA     cm   Right
## 123       NA     21.0000               NA 171.0000          NA     cm    Left
## 124       NA     23.0000               NA 172.0000          NA     cm    Left
## 125 147.3200     22.8600               NA       NA          NA     cm    Left
## 126 180.5000     21.5000          60.0000 179.0000    107.5000     cm   Right
```

```
## 127 180.3000     25.4000          55.9000 167.6000    141.0000     cm   right
## 128 163.8000     22.9000          57.2000 147.5000    123.2000     cm   right
## 129 180.3000     24.1000          59.7000 163.5000    139.7000     cm    left
## 130 159.0000     22.9000          54.6000 142.3000    123.2000     cm   right
## 131 181.0000     25.4000          60.3000 165.0000    151.1000     cm   right
## 132 190.0000     24.0000          58.0000 173.0000    143.0000     cm   right
## 133 191.1000     26.7000          56.5000 175.5000    150.5000     cm   right
## 134 180.0000     29.5000          59.0000 171.0000    140.0000     cm   right
## 135 169.0000     24.0000          58.0000 158.0000    132.5000     cm   right
## 136 178.0000     29.0000          57.0000 168.0000    126.5000     cm   right
## 227 143.5000     22.0000          56.0000 165.0000    103.5000     cm   right
## 228 177.0000     24.0000          57.0000 175.0000    107.0000     cm   right
## 229 175.0000     21.5000          59.5000 175.0000    104.0000     cm   right
## 230 175.0000     21.5000          55.5000 174.0000    103.5000     cm   right
## 231 177.0000     22.0000          58.0000 181.0000    110.5000     cm   right
## 232 166.0000     20.0000          56.5000 160.0000    102.0000     cm   right
## 233 174.0000     22.0000          57.5000 175.0000    102.0000     cm   right
## 234 183.0000     23.0000          57.5000 172.0000    109.0000     cm   right
## 235  93.0000     20.0000          51.0000  90.5000     49.0000     cm    both
## 236 178.0000     23.0000          59.5000 177.0000    104.5000     cm    left
## 237 151.1300     20.5000          53.5000 154.0000     94.5000     cm   right
## 238 165.1000     23.0000          55.0000 176.5300    104.0000     cm   right
## 239 157.4800     20.0000          53.5000 165.1000     92.5000     cm   right
## 240 174.6250     23.5000          61.0000 180.3400    105.0000     cm   right
## 241 167.0000     22.0000          55.0000 171.0000    105.0000     cm   right
## 242 170.0000     24.0000          57.0000 175.0000    106.0000     cm   right
## 243 154.0000     21.0000          56.2000 155.0000     94.0000     cm   right
## 244 167.6400     24.0000          58.5000 177.8000    100.0000     cm   right
## 245 185.0000     25.0000          59.0000 188.0000    108.0000     cm   right
## 246 172.0000     22.0000          58.0000 170.0000     89.0000     cm   right
## 277 180.5000     26.5000          60.5000 181.5000    103.5000     cm   right
## 278 160.0000     20.0000          55.5000 157.0000          NA     cm   right
## 279 175.0000     24.0000          58.0000 180.0000          NA     cm   right
## 280 180.0000     23.0000          58.5000 185.0000          NA     cm   right
## 281 158.0000     24.5000          55.5000 161.5000     98.0000     cm   right
## 282 182.5000     25.0000          56.0000 186.0000    115.5000     cm   right
## 283 168.0000     26.0000          57.0000 167.0000     98.5000     cm    left
## 284 181.0000     25.5000          61.0000 182.5000    103.0000     cm   right
## 285 155.0000     22.0000          57.0000 154.0000          NA     cm   right
## 286 176.0000     24.0000          58.5000 177.0000          NA     cm   right
## 297 156.2100     20.3200          53.9750 153.0350     88.9000     in   right
## 298 177.8000     23.4950          57.1500 187.9600    104.1400     in   right
## 299 152.0825     20.9550          52.0700 149.8600     86.9950     in   right
## 300 176.9364     20.9550          53.9750 177.4825    101.8540     in   right
## 301 161.9250     19.0500          53.3400 160.6550     95.2500     in   right
## 302 182.8800     22.8600          58.4200 186.6900    113.0300     in   right
## 303 160.0200     21.1582          52.0700 158.1150     87.6300     in   right
## 304 168.2750     20.5740          50.8000 172.0850    106.0450     in   right
## 305 187.9600     20.3200          58.4200 191.1350    111.1250     in   right
## 306 165.1000     20.9550          58.4200 166.3700    100.9650     in   right
## 307 173.0000     22.0000          54.5000 173.0000    100.0000     cm   right
## 308 167.0000     18.0000          53.0000 167.0000    102.0000     cm   right
## 309 157.0000     19.0000          53.5000 159.0000     94.0000     cm   right
## 310 158.0000     24.0000          53.0000 146.0000     93.0000     cm   right
```

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## 311 162.0000     22.5000          56.0000 163.0000     98.0000     cm   right
## 312 168.0000     28.0000          53.0000 177.0000     97.0000     cm   right
## 313 151.0000     20.0000          56.0000 165.0000     91.0000     cm   right
## 314 149.0000     29.0000          54.0000 148.0000     88.5000     cm   right
## 315 159.0000     23.0000          54.0000 167.0000     90.0000     cm   right
## 316 162.0000     22.5000          58.0000 160.5000     91.5000     cm   right
## 317 173.9900     25.0825          60.3250 181.6100    104.1400 inches   right
## 318 170.1800     18.4150          55.8800 172.7200    101.6000 inches    left
## 319 177.8000     25.4000          57.1500 182.8800    107.9500 inches   right
## 320 152.4000     24.1300          55.8800 152.4000     86.9950 inches   right
## 321 177.8000     20.3200          56.5150 182.8800    107.3150 inches   right
## 322 161.9250     19.6850          55.2450 158.1150     85.0900 inches   right
## 323 162.5600     21.5900          57.1500 161.2900     95.2500 inches   right
## 324 180.3400     20.3200          58.4200 182.8800    109.2200 inches   right
## 325 160.6550     19.0500          55.8800 152.4000     97.7900 inches   right
## 326 184.1500     20.9550          57.7850 186.6900    107.9500 inches   right
## 327 158.0000     22.0000          53.5000 159.5000     91.5000     cm   right
## 328 172.0000     24.0000          56.0000 168.0000     98.5000     cm   right
## 329 190.5000     22.2500          57.2500 193.0000    113.0000     cm   right
## 330 180.2500     21.5000          55.5000 185.5000    111.0000     cm   right
## 331 158.0000     20.5000          57.0000 166.0000     90.0000     cm   right
## 332 178.0000     22.0000          54.0000 174.0000    107.5000     cm   right
## 333 173.0000     20.0000          21.5000 179.0000    104.0000     cm   right
## 334 162.5000     20.3000          55.8000 165.0000     96.5000     cm    left
## 335 168.0000     20.0000          55.0000 165.0000     97.0000     cm    left
## 337 169.0000     22.0000          58.0000 173.0000    101.0000     cm   right
## 338 158.0000     21.5000          57.0000 162.0000     92.0000     cm   right
## 339 137.0000     23.0000          54.0000 139.0000     85.0000     cm   right
## 340 162.0000     24.0000          56.0000 164.0000     93.0000     cm    left
## 341 160.0000     23.0000          54.0000 159.0000     95.0000     cm   right
## 342 171.0000     23.0000          57.0000 171.5000    101.0000     cm   right
## 343 140.0000     20.0000          55.0000 143.0000     83.0000     cm   right
## 344 154.0000     23.5000          57.0000 160.0000     96.0000     cm    left
## 345 148.0000     24.0000          57.0000 148.0000     93.0000     cm   right
## 346 148.0000     23.0000          54.0000 147.0000     92.0000     cm   right
## 347 182.8800     23.4950          57.1500 193.0400    107.9500   "in" "right"
## 348 170.1800     38.1000          60.3250 158.7500     93.9800   "in" "right"
## 350 174.4980     20.3200          55.3720 175.2600    105.4100   "in" "right"
## 351 176.5300     19.0500          55.3720 184.6580    109.2200   "in" "right"
## 352 162.5600     33.0200          58.4200 166.3700     99.0600   "in" "right"
## 353 177.1650     20.9550          55.2450 175.8950    106.6800   "in" "right"
## 354 170.1800     22.8600          58.4200 171.4500     99.3775   "in" "right"
## 355 187.4520     22.2250          60.9600 191.5160    115.0620   "in" "right"
## 356 172.7200     21.5900          56.5150 173.0375    104.1400   "in" "right"
## 357 175.6000     21.0000          53.8000 176.2000    109.0000     cm   right
## 358 175.5000     20.0000          55.0000 178.0000    107.0000     cm   right
## 359 176.0000     20.5000          56.0000 178.0000    109.0000     cm   right
## 360 158.0000     17.5000          56.0000 152.7000     94.0000     cm   right
## 361 169.6000     20.6000          58.0000 163.0000    100.0000     cm   right
## 362 165.9000     21.0000          56.0000 166.5000     95.0000     cm   right
## 363 168.0000     23.0000          57.0000 172.0000     95.0000     cm   right
## 364 168.5000     21.0000          55.5000 170.0000    103.5000     cm   right
## 365 186.0000     21.5000          59.5000 188.8000    114.5000     cm   right
## 366 170.0000     18.5000          56.0000 176.0000    104.0000     cm   right
```

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## 367 168.9000     21.5000          55.5000 174.0000    100.5000     cm   right
## 368 181.0000     22.8000          56.0000 190.5000    108.2000     cm    both
## 369 160.0000     22.0000          61.0000 157.5000     94.0000     cm   right
## 370 173.0000     25.0000          58.4000 182.0000    104.0000     cm   right
## 371 163.0000     22.0000          55.0000 170.0000     97.0000     cm   right
## 372 185.4000     24.3000          58.0000 181.6000    109.2000     cm   right
## 373 163.0000     21.0000          54.0000 147.3000    101.6000     cm   right
## 374 167.0000     23.0000          55.5000 171.0000    100.0000     cm   right
## 375 167.7000     31.0000          57.6000 168.9000     98.1000     cm   right
## 376 167.7000     30.0000          54.6000 174.0000    106.7000     cm   right
## 377 160.0200     19.0500          55.8800 167.6400     98.4250   Inch   right
## 378 148.5900     19.0500          58.4200 150.6982     90.1700   Inch   right
## 379 165.1000     18.4150          53.9750 165.1000    101.6000   Inch    left
## 380 175.2600     17.7800          56.6420 170.1800    104.1400   Inch   right
## 381 172.7200     18.4150          44.4500 173.3550     92.7100   Inch    left
## 382 172.7200     21.5900          51.4350 177.8000     89.5350   Inch   right
## 383 177.8000     21.5900          48.2600 185.4200     86.9950   Inch    left
## 384 152.4000     19.6850          50.8000 154.9400     91.4400   Inch   right
## 385 153.6700     22.8600          58.4200 157.4800     96.5200   Inch    left
## 386 167.6400     19.6850          53.3400 177.8000     99.0600   Inch   right
## 387 167.5000     25.0000          58.0000 158.0000    102.0000     cm   right
## 388 172.5000     22.5000          60.7000 174.5000    102.0000     cm   right
## 389 182.5000     23.0000          62.5000 183.5000    106.0000     cm    left
## 390 189.0000     22.0000          58.0000 185.8000    114.0000     cm   right
## 391 182.0000     23.5000          59.0000 182.5000    114.0000     cm   right
## 392 180.5000     22.0000          63.0000 177.5000    111.0000     cm   right
## 393 172.0850     22.8600          59.6900 168.9100     97.7900     in   right
## 394 157.4800     20.3200          54.6100 152.4000     92.7100     in   right
## 395 154.9400     21.5900          57.1500 152.4000     85.0900     in   right
## 396 177.5000     24.0000          60.5000 181.5000    109.0000     cm    left
## 397 185.0000     23.0000          59.0000 196.0000          NA     cm   right
## 398 188.0000     22.5000          59.0000 187.0000          NA     cm   right
## 399 184.0000     24.0000          58.5000 183.0000          NA     cm   right
## 400 173.0000     22.0000          57.0000 173.0000          NA     cm   right
## 401 178.0000     24.0000          60.0000 183.0000          NA     cm   right
## 402 160.0000     23.5000          55.0000 165.0000          NA     cm   right
## 403 184.5000     24.0000          56.0000 190.5000          NA     cm   right
## 404 165.0000     23.0000          56.0000 167.5000          NA     cm   right
## 405 180.5000     21.5000          58.5000 185.5000          NA     cm    left
## 406 158.0000     23.0000          56.0000 163.0000          NA     cm   right
## 407 163.8000     20.8000          27.2000 171.4000     98.5000     cm    left
## 408 167.6000     21.0000          57.7000 165.8000    101.6000     cm   right
## 409 166.9000     20.8000          57.1000 157.2260    100.3000     cm   right
## 410 160.2000     21.5900          57.1000 161.5000     92.7000     cm    left
## 411 189.4000     21.3000          64.1000 175.1000    106.5000     cm   right
## 412 165.7000     21.7000          55.4000 163.6000     99.8000     cm   right
## 413 166.6000     20.1000          59.2000 169.7000    102.4000     cm   right
## 414 176.8000     20.1000          56.4000 175.3000    105.3000     cm   right
## 415 180.6000     20.5000          59.4000 169.6000    105.4000     cm   right
## 416 172.2000     19.1000          57.4000 173.4000    105.6000     cm   right
## 417 188.0000     24.5000          58.5000 156.5000    113.7500     cm    left
## 418 170.1800     25.4000          57.7850 171.5000    100.5000     cm   right
## 419 154.9400     20.9550          55.2450 154.9400     87.6300     cm   right
## 420 164.4650     20.9550          56.1000 161.2900    101.5000     cm    left
```

```
## 421 177.8000     22.8600           58.5000 185.4200    110.7500     cm   right
## 422 158.7500     18.4150           50.5000 154.9400     96.0000     cm   right
## 423 133.3500     19.0500           48.7500 133.3500     82.0000     cm   right
## 424 176.5300     21.5900           58.2500 180.3400    107.5000     cm   right
## 425 171.4500     20.3200           55.5000 170.1800    114.0000     cm   right
## 426 162.5600     20.3200           53.0000 165.1000     98.5000     cm   right
##         eye  eye.color swinging age     gender quality       minutes
## 1      both       blue    right  21          F    10.0  1.500000e+01
## 2      both      brown    right  22          M     7.0  2.200000e+01
## 3      both      brown     left  23          M     9.0  1.500000e+01
## 4      both       blue    right  23          F     8.0  1.500000e+01
## 5      left       blue     left  23          F     9.0  1.100000e+01
## 6      both      hazel    right  63          M     9.0  1.700000e+01
## 7      both       blue    right  59          F    10.0  1.300000e+01
## 8      both      brown    right  23          M     8.0  1.900000e+01
## 9     right      brown    right  20          F     9.0  1.400000e+01
## 10     both       blue    right  26          F     7.0  1.500000e+01
## 21    right       blue    right  87     female     7.0  3.500000e+01
## 22    right       blue     left  30       male     8.0  3.600000e+01
## 23    right       blue     left  60     female    10.0  4.000000e+01
## 24    right      brown    right  20     female    10.0  3.000000e+01
## 25     left      green     left  47     female     8.0  3.000000e+01
## 26    right      brown     left  22     female    10.0  3.000000e+01
## 27     left       blue     left  26       male     8.0  1.400000e+01
## 28    right       blue     left  27     female     8.0  1.000000e+01
## 29     left       blue     left  26       male    10.0  2.200000e+01
## 30    right       blue     left  61     female    10.0  1.600000e+01
## 31    right blue/green    right  38       male     9.0  3.200000e+01
## 32    right       blue     left   5     female     9.0  1.500000e+01
## 33     left      brown    right   7     female     8.0  1.700000e+01
## 34     left      hazel    right  36       male     9.0  2.000000e+01
## 35    right      green     left  36     female     9.0  1.500000e+01
## 36    right      hazel     left   6     female    10.0  1.200000e+01
## 37     left      brown    right  11     female    10.0  1.200000e+01
## 38     left      brown    right  35     female    10.0  1.400000e+01
## 39    right       blue    right  52     female     7.0  2.200000e+01
## 40    right      green    right  59       male     9.0  1.500000e+01
## 41     left       blue    right  57     female     9.0  1.500000e+01
## 75    right       blue     left  47       male    10.0  2.300000e+01
## 76    right      brown    right  22       male    10.0  1.500000e+01
## 77    right      brown    right  23       male     8.0  2.000000e+01
## 78    right      green    right  20     female     7.0  1.500000e+01
## 79    right      brown    right  52     female     7.0  2.000000e+01
## 80    right      brown    right  61       male     8.0  1.200000e+01
## 81    right      brown    right  25       male     5.0  1.000000e+01
## 82     both       blue     left  23     female     5.0  1.500000e+01
## 83    right      brown     left  26       male     6.0  1.000000e+01
## 84    right      brown    right  22       male     7.0  1.000000e+01
## 85     left      hazel    right  21       male    10.0  2.450000e+01
## 86    right       blue    right  20     female    10.0  1.000000e+01
## 87    brown       left    right  23       male    10.0  9.000000e+00
## 88    right      brown    right  21       male     5.0  3.000000e+01
## 89    right       blue    right  54       male     9.0  9.000000e+00
## 90    right      hazel    right  61     female     9.0  1.100000e+01
```

```
## 91     left      green    right  20     female     7.0  2.000000e+01
## 92     left      green    right  22       male    10.0  1.550000e+01
## 93    right      green    right  23       male     8.0  2.000000e+01
## 94     left       blue    right  25       male     8.0  2.000000e+01
## 95    right       blue    right  57     female     9.0  4.500000e+01
## 96     left       blue    right  57       male     9.0  4.500000e+01
## 97     left       blue    right  35          M    10.0  1.500000e+01
## 98    right       blue    right  32          F    10.0  2.000000e+00
## 99    right       blue    right   4          M     9.0  3.000000e+00
## 100    <NA>       blue     both   1          F     6.0  1.000000e+01
## 101    left      hazel    right  63          F    10.0  3.000000e+00
## 102   right       blue     left  68          M    10.0  3.000000e+00
## 103    left       blue    right  34          F    10.0  2.000000e+00
## 104    left      brown    right  46          M    10.0  2.000000e+00
## 105   right       blue    right  84          F    10.0  4.000000e+00
## 106   right       blue    right  88          M    10.0  4.000000e+00
## 107    left       blue    right  21       male     9.0  1.900000e+01
## 108   right      green    right  21     female     8.0  1.200000e+01
## 109   right      brown    right  21       male     8.0  1.500000e+01
## 110   right       blue    right  21       male     9.0  5.000000e+00
## 111   right      brown    right  45     female     7.0  6.000000e+00
## 112    left      brown    right  38     female     9.0  5.000000e+00
## 113   right      brown    right  41     female    10.0  4.000000e+00
## 114   right      brown    right  45       male     8.0  8.000000e+00
## 115   right      green    right  21       male     9.0  3.000000e+00
## 116    left      brown    right  21     female     8.0  5.000000e+00
## 117    Left      Brown     Left  46          M     7.0  2.000000e+01
## 118   Right      Brown    Right  44          F     7.0  2.300000e+01
## 119   Right       Blue    Right  17          F     6.0  1.900000e+01
## 120    Left      Brown     Left  14          M     6.0  2.000000e+01
## 121    Left      Brown     Left  12          M     6.0  2.500000e+01
## 122    Left      Brown     Left  11          M     6.0  2.200000e+01
## 123   Right      Brown    Right  27          M     7.0  4.000000e+01
## 124    Left      Brown    Right  41          M     7.0  4.500000e+01
## 125   Right      Brown     Left  27          F     7.0  2.200000e+01
## 126    Left      Brown     Left  26          M     9.0  1.500000e+01
## 127    left       blue    right  21       male     9.0  1.000000e+01
## 128    left       blue    right  20       male     9.0  1.000000e+01
## 129   right       blue    right  18       male     8.0  1.000000e+01
## 130   right       blue    right  43     female     8.0  1.000000e+01
## 131    left       blue    right  47       male     8.0  1.000000e+01
## 132   right       blue    right  27       male     6.0  1.000000e+01
## 133   right      hazel    right  24       male     7.0  1.000000e+01
## 134   right      brown    right  23       male     9.0  1.100000e+01
## 135   right      brown    right  24       male     8.0  1.400000e+01
## 136   right      green    right  24       male     8.0  1.600000e+01
## 227    left      hazel    right  24     female    10.0  1.200000e+01
## 228    left      brown    right  27       male    10.0  1.500000e+01
## 229   right      brown    right  17     female    10.0  1.300000e+01
## 230   right      brown    right  17     female    10.0  1.100000e+01
## 231    left       blue    right  17       male    10.0  1.200000e+01
## 232   right      hazel    right  51     female    10.0  1.400000e+01
## 233   right      brown    right  28     female    10.0  1.200000e+01
## 234   right       blue    right  30       male    10.0  1.300000e+01
```

```
## 235    <NA>      brown     both   3     female     8.0  1.500000e+01
## 236    left       blue     left  19       male    10.0  1.000000e+01
## 237   right      brown    right  11     female    10.0  1.000000e+01
## 238   right      brown    right  17     female    10.0  1.000000e+01
## 239   right      brown    right  41     female    10.0  1.000000e+01
## 240   right      hazel    right  45       male    10.0  1.000000e+01
## 241   right      brown    right  30     female     9.0  1.000000e+01
## 242   right      brown    right  33       male     9.0  1.000000e+01
## 243   right      brown    right  21     female     9.0  1.000000e+01
## 244   right      brown    right  21     female     9.0  1.000000e+01
## 245    left      hazel    right  27       male     9.0  1.000000e+01
## 246   right      black    right  24       male     9.0  1.000000e+01
## 277    left      hazel    right  29       male    10.0  2.200000e+01
## 278    left      hazel    right  57     female     9.0  1.800000e+01
## 279   right      hazel    right  50       male    10.0  1.500000e+01
## 280   right      hazel    right  24       male     9.0  1.600000e+01
## 281   right blue-green    right  23     female    10.0  1.400000e+01
## 282    left      hazel     left  23       male    10.0  1.300000e+01
## 283    left      brown    right  21       male     8.0  2.000000e+01
## 284    left       blue    right  56       male     9.0  1.400000e+01
## 285    left      brown    right  56     female     9.0  1.500000e+01
## 286   right      hazel    right  17       male     9.0  1.600000e+01
## 297   right       blue    rigth  28     female    10.0  2.000000e+01
## 298   right      brown    right  27       male    10.0  2.400000e+01
## 299   right       blue    right  61     female    10.0  2.600000e+01
## 300   right       blue    right  61       male    10.0  2.300000e+01
## 301   right      brown    right  54     female    10.0  2.000000e+01
## 302   right      hazel    right  55       male     9.0  1.800000e+01
## 303   right      hazel    right  63     female     9.0  2.200000e+01
## 304   right      hazel    right  28     female     9.0  2.100000e+01
## 305   right      hazel    right  27       male    10.0  2.500000e+01
## 306   right       blue    right  36     female     8.0  2.100000e+01
## 307   right      brown    right  23       male    10.0  1.500000e+01
## 308   right      brown    right  25     female    10.0  1.800000e+01
## 309   right      brown     left  50     female    10.0  2.000000e+01
## 310   right      brown      let  94     female    10.0  1.900000e+01
## 311   right      brown    right  72     female     9.0  2.300000e+01
## 312   right      black    right  72       male     9.0  1.500000e+01
## 313    both      brown    leftt  76     female     9.0  1.600000e+01
## 314   right      brown     left  68     female     9.0  1.500000e+01
## 315    both      black    right  75       male     9.0  1.900000e+01
## 316    both      brown    right  77       male     9.0  2.100000e+01
## 317   right      brown    right  27       male     9.0  1.600000e+01
## 318    left      brown     left  58     female    10.0  1.400000e+01
## 319   right       blue    right  52       male     8.0  2.100000e+01
## 320   right       blue    right  53     female    10.0  1.900000e+01
## 321   right      hazel    right  60       male     9.0  1.500000e+01
## 322   right       blue    right  61     female    10.0  1.700000e+01
## 323   right       blue    right  68     female    10.0  1.500000e+01
## 324   right      brown    right  69       male     7.0  1.900000e+01
## 325   right       blue    right  11       male    10.0  2.100000e+01
## 326   right      hazel    right  30       male    10.0  1.200000e+01
## 327   right      brown    right  62          f     8.0  2.500000e+01
## 328   right      brown    right  68          m     8.0  2.500000e+01
```

```
## 329    left       blue    right  36          m     8.0  1.000000e+01
## 330   right      green    right  42          f     8.0  1.000000e+01
## 331    left      brown    right  33          f     6.0  1.500000e+01
## 332    left      brown    right  34          m     6.0  1.500000e+01
## 333   right      brown    right  36          m     9.0  2.000000e+01
## 334    left      brown    right  38          f     8.0  1.000000e+01
## 335    left      hazel     left  40          m     8.0  1.500000e+01
## 337    both      brown     left  23       male    10.0  9.500000e+00
## 338    both      brown     left  23     female     9.0  9.750000e+00
## 339    left      brown     left  31       male     8.0  1.325000e+01
## 340    left      brown    right  60       male     7.0  2.700000e+01
## 341   right      brown     left  52     female     7.0  2.500000e+01
## 342   right       blue     left  64       male     8.0  1.950000e+01
## 343    both      brown     left  47     female     8.0  2.600000e+01
## 344    both      brown    right  25       male     9.0  2.475000e+01
## 345    both      brown     left  22     female     7.0  2.500000e+01
## 346   right      brown     left  17     female    10.0  1.700000e+01
## 347 "right"    "brown"  "right"  25     "male"     9.0            NA
## 348  "both"    "brown"  "right"  26     "male"     8.0  1.700000e+01
## 350 "right"    "brown"  "right"  28     "male"     8.0  1.500000e+01
## 351 "right"     "blue"  "right"  58   "female"     9.0            NA
## 352 "right"    "brown"  "right"  26   "female"     8.0  1.700000e+01
## 353 "right"     "blue"  "right"  24   "female"     9.0            NA
## 354  "left"     "blue"  "right"  28     "male"     9.0  1.850000e+01
## 355  "left"    "brown"  "right"  59     "male"     9.0            NA
## 356 "right"    "brown"  "right"  28   "female"     9.0  1.850000e+01
## 357   right      brown    right  21     female    10.0  1.800000e+01
## 358   right grey-green    right  22     female     9.0  2.000000e+01
## 359   right       grey    right  58     female     9.0  1.900000e+01
## 360   right blue-green    right  17     female     9.0  1.800000e+01
## 361   right blue-green    right  51     female     9.0  1.800000e+01
## 362    left  blue-grey    right  53       male     9.0  1.900000e+01
## 363    left      brown    right  21     female     9.0  2.000000e+01
## 364   right      brown    right  55     female    10.0  1.500000e+01
## 365    left       blue    right  56       male    10.0  1.600000e+01
## 366   right      brown    right  22       male     9.0  2.000000e+01
## 367   equal      brown    right  28     female    10.0  1.000000e+01
## 368   equal      brown    right  38       male    10.0  1.000000e+01
## 369    left      brown    right  28     female     7.0  1.500000e+01
## 370   right      green    right  29       male     7.0  1.500000e+01
## 371   equal      brown    right  63     female     7.0  1.200000e+01
## 372   right       blue    right  32       male     8.0  9.000000e+00
## 373   equal      brown    right  29     female     6.0  8.000000e+00
## 374    left      brown    right  48     female     7.0  1.000000e+01
## 375   equal      brown    right  55     female     7.0  1.000000e+01
## 376   right      hazel    right  39     female     6.0  1.000000e+01
## 377   right      Brown    right  22       male    10.0  2.400000e+01
## 378    left      Brown    right  11     female     9.0  2.000000e+01
## 379    left      Brown     left  13       male     9.0  1.700000e+01
## 380    left      Brown    right  17       male     8.0  1.600000e+01
## 381   right      Brown     left  14       male    10.0  2.700000e+01
## 382    left      Brown    right  22       male     9.0  2.600000e+01
## 383    left      Brown     left  21       male    10.0  1.600000e+01
## 384   right      Brown    right  22     female    10.0  1.900000e+01
```

```
## 385    left       Blue     left  13     female     8.0  2.200000e+01
## 386    left      Brown    right  19       male    10.0  1.500000e+01
## 387    left       blue    right  21       male     9.0  8.000000e+00
## 388    left       blue    right  25       male     7.0  1.100000e+01
## 389    <NA>      brown     left  25       male     7.0  1.000000e+01
## 390   right       grey    right  23       male     8.0  1.200000e+01
## 391   right       blue    right  21       male     7.0  1.300000e+01
## 392   right      brown    right  20       male     6.0  1.400000e+01
## 393    <NA>       blue    right  55       male     6.0  1.100000e+01
## 394   right      green     left  53     female     6.0  1.200000e+01
## 395   right      brown    right  20 non-binary     6.0  1.200000e+01
## 396   right      brown    right  26       male     5.0  1.000000e+01
## 397   right      hazel    right  28       male     9.0  1.600000e+01
## 398   right       blue    right  25       male    10.0  1.200000e+01
## 399   right       blue    right  24       male     7.0  1.400000e+01
## 400   right      hazel    right  50     female     8.0  1.000000e+01
## 401   right       blue    right  52       male     8.0  1.100000e+01
## 402   right       blue    right  29     female     8.0  1.300000e+01
## 403   right      brown    right  21       male     9.0  7.000000e+00
## 404   right      brown    right  27     female    10.0  1.000000e+01
## 405   right      brown    right  32       male    10.0  1.000000e+01
## 406   right      brown    right  25     female     8.0  1.200000e+01
## 407   right       blue     left  22     female    10.0 -2.209021e+09
## 408    left       blue    right  25     female     8.0 -2.209034e+09
## 409    left      brown    right  25     female     7.0 -2.209044e+09
## 410   right       blue    right  55     female     9.0 -2.209024e+09
## 411    left       blue    right  55       male     9.0 -2.209040e+09
## 412   right      brown    right  22     female     8.0 -2.209031e+09
## 413    left      green    right  22     female     8.0 -2.209045e+09
## 414    left      brown    right  21     female     8.0 -2.209039e+09
## 415   right       blue    right  25     female     7.0 -2.209042e+09
## 416   right      hazel     left  26     female     7.0 -2.209038e+09
## 417   right      green     left  53       male     9.5            NA
## 418   right       blue     both  53       male    10.0  2.000000e+01
## 419   right      brown    right  49     female     9.5  1.500000e+01
## 420    left      brown     left  20     female     9.5  1.800000e+01
## 421   right       blue    right  40       male     9.5            NA
## 422   right       blue    right  11     female     9.0            NA
## 423   right       blue    right   7       male     9.5            NA
## 424   right      green    right  43       male     8.0            NA
## 425   right       blue    right  42     female     8.0            NA
## 426   right       blue    right  13     female     8.0            NA
##              ethnicity
## 1                white
## 2             Hispanic
## 3                black
## 4                white
## 5                white
## 6                white
## 7                white
## 8                white
## 9                white
## 10               white
## 21               white
```

```
## 22               white
## 23               white
## 24             laotian
## 25               white
## 26    african american
## 27               white
## 28               white
## 29               white
## 30               white
## 31               white
## 32               white
## 33               white
## 34               white
## 35               white
## 36               white
## 37               white
## 38               white
## 39               white
## 40               white
## 41               white
## 75               white
## 76               white
## 77               white
## 78               white
## 79               white
## 80               white
## 81               white
## 82            hispanic
## 83               white
## 84               white
## 85           caucasian
## 86               white
## 87             chinese
## 88               asian
## 89               anglo
## 90           caucasian
## 91           caucasian
## 92           caucasian
## 93           caucasian
## 94           caucasian
## 95           caucasian
## 96           caucasian
## 97  White Non-Hispanic
## 98  White Non-Hispanic
## 99  White Non-Hispanic
## 100 White Non-Hispanic
## 101 White Non-Hispanic
## 102 White Non-Hispanic
## 103 White Non-Hispanic
## 104 White Non-Hispanic
## 105 White Non-Hispanic
## 106 White Non-Hispanic
## 107              white
## 108              white
```

```
## 109              white
## 110              white
## 111              white
## 112              white
## 113              white
## 114              white
## 115              white
## 116           hispanic
## 117              White
## 118           Japanese
## 119           Japanese
## 120              White
## 121              White
## 122              White
## 123              White
## 124    Native American
## 125           Filipino
## 126              White
## 127              white
## 128              white
## 129              white
## 130              white
## 131              white
## 132              white
## 133              white
## 134           Filipino
## 135              white
## 136              white
## 227          caucasian
## 228          caucasian
## 229          caucasian
## 230          caucasian
## 231          caucasian
## 232          caucasian
## 233          caucasian
## 234          caucasian
## 235           hispanic
## 236          caucasian
## 237              white
## 238              white
## 239              white
## 240              white
## 241              white
## 242              white
## 243              asian
## 244              white
## 245     latin american
## 246              asian
## 277              white
## 278              white
## 279              white
## 280              white
## 281              white
## 282              white
```

```
## 283     white-filipino
## 284              white
## 285              white
## 286              white
## 297              white
## 298              white
## 299              white
## 300              white
## 301              white
## 302              white
## 303              white
## 304              white
## 305              white
## 306              white
## 307              Asain
## 308              Asain
## 309              Asain
## 310              Asain
## 311              Asain
## 312              Asain
## 313              Asain
## 314              Asain
## 315              Asain
## 316              Asain
## 317              white
## 318              white
## 319              white
## 320              white
## 321              white
## 322              white
## 323              white
## 324              white
## 325              white
## 326              white
## 327             korean
## 328             korean
## 329              white
## 330              white
## 331             korean
## 332              white
## 333             indian
## 334             korean
## 335              white
## 337    Caucasian/Asian
## 338              Asian
## 339              Asian
## 340              Asian
## 341              Asian
## 342          Caucasian
## 343              Asian
## 344    Caucasian/Asian
## 345    Caucasian/Asian
## 346    Caucasian/Asian
## 347        "caucasian"
```

```
## 348            "asian"
## 350     "asian/latino"
## 351        "caucasian"
## 352     "asian/latino"
## 353        "caucasian"
## 354        "caucasian"
## 355        "caucasian"
## 356        "caucasian"
## 357              white
## 358              white
## 359              white
## 360              white
## 361              white
## 362              white
## 363              white
## 364              white
## 365              white
## 366              asian
## 367              asian
## 368              white
## 369              asian
## 370              white
## 371              asian
## 372              white
## 373              white
## 374           hispanic
## 375   pacific islander
## 376           hispanic
## 377   African American
## 378   African American
## 379   African American
## 380   African American
## 381   African American
## 382              Asian
## 383          Caucasian
## 384          Caucasian
## 385   African American
## 386              Asian
## 387              white
## 388              white
## 389             latino
## 390              white
## 391              white
## 392              white
## 393              white
## 394              white
## 395              asian
## 396              asian
## 397              white
## 398              white
## 399              white
## 400              white
## 401              white
## 402    native american
```

```
## 403              white
## 404      white italian
## 405   japanese italian
## 406              white
## 407          caucasain
## 408          caucasain
## 409          caucasain
## 410          caucasain
## 411          caucasain
## 412          caucasain
## 413          caucasain
## 414          caucasain
## 415          caucasain
## 416          caucasain
## 417              white
## 418              white
## 419              asian
## 420              asian
## 421              white
## 422              white
## 423              white
## 424              white
## 425              white
## 426              white
##
## 1
## 2
## 3
## 4
## 5
## 6
## 7
## 8
## 9
## 10
## 21
## 22
## 23
## 24
## 25
## 26
## 27
## 28
## 29
## 30
## 31
## 32
## 33
## 34
## 35
## 36
## 37
## 38
## 39
```

```
## 40
## 41
## 75                                                
```

```
## 127                                                
```

```
## 311                                                  possible ancestry may include: Taiwanese,
## 312                                                                                 possible anc
## 313                                                  possible ancestry may include: Taiwanese,
## 314                                                                                 possible anc
## 315                                                  possible ancestry may include: Taiwanese,
## 316                                                                                 possible anc
## 317
## 318
## 319
## 320
## 321
## 322
## 323
## 324
## 325
## 326
## 327
## 328
## 329
## 330
## 331
## 332
## 333
## 334
## 335
## 337                                                                                          A
## 338                                                                        Ancestry includes: C
## 339                                                                        Ancestry includes: C
## 340
## 341
## 342
## 343
## 344                                                                                          A
## 345                                                                                          A
## 346                                                                                          A
## 347
## 348
## 350
## 351
## 352
## 353
## 354
## 355
## 356
## 357                                                                  white european, I gave a
## 358                          white european, I gave a 9 on quality because I did not do the measuremen
## 359                          white european, I gave a 9 on quality because I did not do the measuremen
## 360                          white european, I gave a 9 on quality because I did not do the measuremen
## 361                          white european, I gave a 9 on quality because I did not do the measuremen
## 362                          white european, I gave a 9 on quality because I did not do the measuremen
## 363                          white european, I gave a 9 on quality because I did not do the measuremen
## 364                                                                  white european, I gave a
## 365                                                                  white european, I gave a
## 366                              vietnamese, I gave a 9 on quality because I did not do the measuremen
```

```
## 367
## 368                                                    possible ancestry may i
## 369
## 370
## 371
## 372
## 373
## 374
## 375
## 376
## 377
## 378
## 379
## 380                                          possible ancestry may include: E
## 381
## 382
## 383
## 384
## 385
## 386
## 387
## 388
## 389
## 390
## 391
## 392
## 393
## 394
## 395
## 396
## 397
## 398
## 399
## 400
## 401
## 402
## 403
## 404
## 405
## 406
## 407
## 408
## 409
## 410
## 411
## 412
## 413                                                          possible ancers
## 414
## 415                                                   possible ancerstry ma
## 416
## 417
## 418
## 419
## 420
```

```
## 421
## 422
## 423
## 424
## 425
## 426
##     my.units hand.length hand.width hand.elbow elbow.armpit arm.reach
## 1         cm    16.95000   18.15000   34.90000     22.50000  188.2000
## 2         cm    18.55000   19.70000   45.55000     26.00000  223.0000
## 3         cm    15.00000   14.00000   52.00000     33.00000  183.0000
## 4         cm    17.00000   19.00000   39.00000     29.00000  202.0000
## 5         cm    20.00000   24.00000   43.00000     28.00000  231.0000
## 6         cm    18.35000   20.30000   37.65000     31.50000  206.0000
## 7         cm    17.05000   18.80000   36.45000     25.00000  150.1000
## 8         cm    17.00000   18.50000   36.00000     24.50000  192.0000
## 9         cm    18.00000   14.00000   38.50000     20.00000   38.0000
## 10        cm    17.00000   19.00000   38.70000     27.70000  201.1000
## 21        cm    17.00000   16.30000   40.00000     30.00000   52.5000
## 22        cm    17.90000   18.60000   46.05000     57.00000   71.0000
## 23        cm    17.20000   17.55000   38.00000     21.50000   57.5000
## 24        cm    18.35000   19.55000   44.35000     28.00000   64.9000
## 25        cm    17.20000   17.70000   42.50000     23.25000   66.0000
## 26        cm    18.20000   19.65000   43.20000     29.65000   60.0000
## 27        cm    18.60000   22.00000   47.20000     32.40000   66.7000
## 28        cm    17.20000   18.90000   44.10000     28.00000   64.9500
## 29        cm    17.15000   19.15000   44.50000     24.00000   65.0000
## 30        cm    16.30000   17.10000   40.35000     24.50000   56.2000
## 31        in    19.20875   21.74875   48.26000     24.76500  228.6000
## 32        in    12.54125   13.97000   28.25750     18.09750  137.7950
## 33        in    13.17625   15.08125   32.06750     21.59000  145.4150
## 34        in    19.84375   22.86000   48.89500     31.75000  221.9325
## 35        in    17.46250   19.52625   41.59250     29.84500  202.2475
## 36        in    12.70000   13.81125   30.79750     22.54250  143.0337
## 37        in    18.25625   18.33563   40.79875     28.49563  190.8175
## 38        in    18.17688   20.95500   43.41813     31.27375  190.9762
## 39        in    16.35125   19.12938   42.86250     29.52750  202.5650
## 40        in    20.32000   21.27250   48.73625     31.11500  224.1550
## 41        in    17.30375   20.47875   43.18000     29.52750  201.1363
## 75        cm    19.25000   21.75000   45.50000     30.50000  225.7500
## 76        cm    17.78000   22.86000   46.22800     29.50000  152.5000
## 77        cm    17.05000   22.10000   44.65000     28.00000  147.3000
## 78        cm    16.00000   20.00000   41.00000     26.50000  135.0000
## 79        cm    16.00000   21.00000   42.00000     26.50000  138.5000
## 80        cm    18.00000   23.00000   47.00000     30.50000  156.0000
## 81        cm    18.00000   23.00000   47.00000     29.50000  154.5000
## 82        cm    16.00000   20.00000   41.00000     26.50000  136.0000
## 83        cm    18.00000   23.00000   47.00000     30.50000  156.0000
## 84        cm    18.00000   23.00000   48.00000     30.50000  157.0000
## 85        cm    19.50000   21.25000   40.50000     25.50000  224.7500
## 86        cm    18.00000   19.00000   40.50000     25.50000  206.0000
## 87        cm    18.00000   18.00000   39.50000     19.50000  199.5000
## 88        cm     8.00000   10.00000   30.00000     23.00000  234.0000
## 89        cm    20.00000   22.75000   23.50000     16.00000  223.0000
## 90        cm    19.50000   21.00000   41.00000     24.00000  208.0000
```

```
## 91        cm    17.75000   20.50000   45.00000     21.00000  211.0000
## 92        cm    18.50000   21.50000   44.25000     29.00000  223.5000
## 93        cm    21.00000   10.00000   47.00000     71.00000  243.0000
## 94        cm    16.50000   10.75000   43.50000     29.00000  120.5000
## 95        cm    16.00000   10.00000   38.00000     23.00000   77.7500
## 96        cm    21.00000   11.00000   44.50000     30.00000  237.5000
## 97        in    19.49450   21.01850   28.76550     30.48000  219.0750
## 98        in    17.14500   19.05000        NaN          NaN       NaN
## 99        in    11.74750   14.28750        NaN          NaN       NaN
## 100       in     9.20750   11.43000        NaN          NaN       NaN
## 101       in    16.51000   18.41500        NaN          NaN       NaN
## 102       in    17.78000   20.95500        NaN          NaN       NaN
## 103       in    17.14500   20.32000        NaN          NaN       NaN
## 104       in    17.78000   21.27250        NaN          NaN       NaN
## 105       in    16.51000   18.73250        NaN          NaN       NaN
## 106       in    19.05000   21.27250        NaN          NaN       NaN
## 107       cm    18.87500   20.17500   45.74500     68.58000   71.7550
## 108       cm    16.51000   12.70000   40.32250     26.98750   61.5950
## 109       cm    19.68500   12.06500   46.35000     25.71750   73.0250
## 110       cm    19.30400   14.60500        NaN          NaN       NaN
## 111       cm    15.24000   15.24000        NaN          NaN       NaN
## 112       cm    19.05000   17.14500        NaN          NaN       NaN
## 113       cm    19.05000   17.78000        NaN          NaN       NaN
## 114       cm    20.32000   15.24000        NaN          NaN       NaN
## 115       cm    19.68500   15.24000        NaN          NaN       NaN
## 116       cm    16.51000   13.97000        NaN          NaN       NaN
## 117       cm    20.32000   24.13000   45.08500     33.02000  238.7600
## 118       cm    17.78000   20.32000   38.10000     26.67000  205.7400
## 119       cm    16.51000   19.05000   37.46500     22.86000  186.0550
## 120       cm    15.87500   17.14500   34.29000     17.14500  184.1500
## 121       cm    13.97000   15.87500   31.75000     22.86000  170.1800
## 122       cm    14.60500   15.87500   30.48000     22.86000  163.1950
## 123       cm    18.50000   21.50000   40.50000          NaN  218.0000
## 124       cm    19.50000   24.00000   49.50000          NaN  230.0000
## 125       cm    13.97000   15.25000   35.56000     20.32000  177.8000
## 126       cm    18.75000   21.25000   45.00000     26.00000  163.5000
## 127       cm    18.50000        NaN   47.95000     28.90000   66.5500
## 128       cm    17.80000        NaN   43.20000     23.85000   61.6000
## 129       cm    19.10000        NaN   47.00000     26.35000   63.2000
## 130       cm    17.10000        NaN   42.50000     22.90000   61.3000
## 131       cm    19.70000        NaN   48.90000     25.40000   66.9500
## 132       cm    21.50000        NaN   48.00000     29.00000       NaN
## 133       cm    19.70000        NaN   50.50000     32.70000       NaN
## 134       cm    18.75000        NaN   52.25000     32.50000   66.0000
## 135       cm    18.00000        NaN   46.25000     26.00000   59.2500
## 136       cm    17.50000        NaN   44.00000     29.00000   64.2500
## 227       cm    17.00000   19.00000   38.50000     26.50000  208.5000
## 228       cm    19.00000   20.75000   40.50000     22.25000  214.5000
## 229       cm    19.25000   19.25000   40.25000     23.75000  217.7500
## 230       cm    19.00000   18.75000   41.50000     25.50000  218.2500
## 231       cm    20.25000   24.00000   49.25000     28.50000  234.2500
## 232       cm    18.75000   19.50000   40.25000     32.25000  204.2500
## 233       cm    19.00000   19.50000   43.75000     22.75000  222.7500
## 234       cm    19.00000   20.25000   43.50000     21.00000  230.0000
```

```
## 235       cm    12.25000   13.25000   25.25000     10.00000  107.2500
## 236       cm    20.00000   21.25000   45.25000     23.50000  221.2500
## 237       cm    15.50000   18.50000   42.50000     23.50000  199.2312
## 238       cm    18.75000   19.50000   47.25000     24.50000  214.3125
## 239       cm    16.50000   20.50000   43.00000     25.50000  202.2475
## 240       cm    19.50000   23.50000   49.50000     23.50000  230.1875
## 241       cm    20.00000   20.00000   45.00000     31.00000  212.0000
## 242       cm    21.00000   22.00000   46.00000     31.00000  218.0000
## 243       cm    16.60000   17.00000   39.65000     21.05000  195.3500
## 244       cm    18.00000   20.00000   45.50000     27.00000  220.3450
## 245       cm    20.00000   23.75000   52.00000     27.00000  228.0000
## 246       cm    17.00000    7.00000   38.00000     18.00000  207.0000
## 277       cm    21.50000   24.25000   47.00000     28.00000  233.5000
## 278       cm    18.00000   20.50000   39.50000     28.00000  206.0000
## 279       cm    24.00000   26.50000   43.00000     28.00000  224.7500
## 280       cm    20.50000   25.00000   44.50000     30.50000  233.0000
## 281       cm    16.50000   20.00000   39.00000     24.00000  201.0000
## 282       cm    19.00000   21.00000   45.50000     25.50000  239.5000
## 283       cm    19.00000   21.75000   45.00000     24.00000  215.0000
## 284       cm    22.00000   25.00000   45.50000     28.50000  232.0000
## 285       cm    17.50000   19.25000   37.00000     25.00000  198.0000
## 286       cm    22.00000   23.50000   45.00000     26.75000  232.2500
## 297       in    16.51000   16.82750   37.46500     24.44750  194.3100
## 298       in    18.83410   20.32000   46.99000     33.43910  225.5838
## 299       in    18.98650   19.45640   41.27500     25.08250  191.9732
## 300       in    20.95500   22.98700   46.26610     33.75660  223.0437
## 301       in    18.41500   20.95500   44.13250     32.38500  203.2000
## 302       in    19.05000   20.00250   47.94250     34.29000  234.6325
## 303       in    17.78000   18.51660   40.76700     23.17750  203.9366
## 304       in    17.78000   19.72945   43.05300     28.57500  207.9943
## 305       in    20.00250   21.59000   51.11750     38.10000  240.3475
## 306       in    17.78000   19.05000   40.00500     24.76500  209.5500
## 307       cm    17.75000   20.00000   43.00000     22.00000  216.5000
## 308       cm    18.00000   19.75000   42.00000     22.50000  206.7500
## 309       cm    16.50000   18.50000   39.00000     28.50000  196.5000
## 310       cm    17.00000   16.50000   39.50000     20.00000  192.0000
## 311       cm    18.50000   19.50000   42.00000     24.00000  203.5000
## 312       cm    19.00000   20.25000   43.75000     21.50000  214.0000
## 313       cm    18.00000   18.75000   40.50000     21.00000  194.5000
## 314       cm    16.50000   19.50000   37.75000     19.50000  181.5000
## 315       cm    16.75000   19.75000   43.00000     21.50000  196.0000
## 316       cm    17.75000   19.50000   23.50000     20.50000  201.0000
## 317       in    18.89125   21.74875   45.87875     33.02000  225.4250
## 318       in    16.51000   20.32000   40.00500     24.76500  218.4400
## 319       in    17.78000   20.00250   43.18000     27.94000  226.0600
## 320       in    15.87500   17.78000   37.46500     20.32000  197.2818
## 321       in   223.20250   18.09750   45.72000     24.76500  220.9800
## 322       in    17.46250   16.19250   38.73500     24.76500  194.9450
## 323       in    17.78000   18.09750   40.32250     20.63750  190.5000
## 324       in    18.41500   20.32000   41.59250     27.30500  207.0100
## 325       in    17.78000   17.78000   41.27500     27.94000  204.4700
## 326       in    19.05000   20.32000   49.21250     34.29000  237.1725
## 327       cm    17.00000   19.50000   39.50000     23.50000  199.5000
## 328       cm    19.50000   20.50000   41.75000     25.00000  211.5000
```

```
## 329       cm    21.00000   22.25000   51.12500     36.50000  244.5000
## 330       cm    19.87500   21.62500   46.75000     28.75000  234.3750
## 331       cm    16.75000   19.50000   40.50000     21.50000  198.5000
## 332       cm    17.50000   20.50000   44.50000     25.75000  234.0000
## 333       cm    18.25000   19.50000   46.00000     30.50000   84.0000
## 334       cm    17.40000   17.80000   43.00000     28.50000  204.2500
## 335       cm    18.00000   20.00000   43.50000     31.12500  218.4500
## 337       cm    19.50000   21.50000   45.00000     22.50000  205.0000
## 338       cm    18.00000   18.50000   41.00000     23.00000  195.0000
## 339       cm    17.50000   16.00000   33.50000     20.50000  172.0000
## 340       cm    20.25000   19.50000   40.50000     20.50000  196.5000
## 341       cm    19.00000   19.00000   39.50000     20.50000  189.5000
## 342       cm    19.00000   22.00000   43.00000     20.00000  212.5000
## 343       cm    17.00000   18.50000   37.25000     20.50000  179.5000
## 344       cm    19.25000   21.00000   41.50000     20.25000  197.0000
## 345       cm    17.00000   17.00000   35.50000     19.00000  184.0000
## 346       cm    17.00000   16.50000   37.00000     20.00000  181.5000
## 347       in    19.05000   25.40000   49.21250     21.90750  234.6325
## 348       in    17.46250   19.36750   40.64000     25.40000  199.7456
## 350       in    18.66900   19.93900   41.02100     25.78100  218.4400
## 351       in    19.93900   22.60600   45.97400     28.70200  228.0920
## 352       in    19.05000   21.27250   44.45000     26.98750  201.9300
## 353       in    18.41500   21.59000   44.76750     35.56000  224.4725
## 354       in    18.41500   20.95500   41.91000     20.32000  208.2800
## 355       in    20.82800   25.40000   45.97400     26.79700  236.0930
## 356       in    18.41500   20.32000   43.18000     22.22500  215.9000
## 357       cm    18.40000   20.85000   47.15000     31.50000  222.0000
## 358       cm    19.90000   20.35000   41.85000     30.50000  225.5000
## 359       cm    20.05000   22.00000   44.60000     34.00000  227.0000
## 360       cm    15.85000   17.65000   39.60000     27.80000  194.8500
## 361       cm    17.00000   19.65000   42.75000     29.10000  209.6500
## 362       cm    17.80000   19.90000   43.85000     30.00000  201.0000
## 363       cm    17.00000   20.05000   44.20000     30.00000  216.7500
## 364       cm    18.90000   21.25000   45.45000     31.75000  213.0000
## 365       cm    20.00000   22.60000   50.60000     34.75000  237.5000
## 366       cm    19.00000   21.50000   40.00000     21.25000  218.5000
## 367       cm    19.00000   21.90000   44.50000     25.65000  208.9000
## 368       cm    19.70000   21.60000   47.60000     26.70000  230.9500
## 369       cm    17.20000   19.50000   35.90000     26.00000  197.9500
## 370       cm    18.90000   21.10000   41.50000     25.40000  212.0000
## 371       cm    17.10000   20.30000   41.50000     24.15000  207.2000
## 372       cm    18.40000   20.30000   45.45000     24.75000  226.5500
## 373       cm    15.00000   18.00000   39.15000     21.10000  200.4500
## 374       cm    18.00000   22.00000   40.50000     24.50000  213.0000
## 375       cm    21.20000   22.10000   46.55000     20.30000  212.5000
## 376       cm    17.15000   20.30000   41.95000     35.55000  212.2000
## 377       in    17.78000   19.05000   43.18000     23.49500  205.7400
## 378       in    15.97660   15.24000   38.73500     23.69820  196.8500
## 379       in    17.78000   16.82750   43.49750     27.94000  212.0900
## 380       in    17.14500   15.24000   42.54500     25.40000  224.7900
## 381       in    20.00250   21.90750   46.67250     36.51250  199.0725
## 382       in    21.59000   22.22500   46.03750     38.10000  200.9775
## 383       in    22.22500   22.86000   47.30750     40.64000  207.3275
## 384       in    15.87500   18.09750   38.10000     21.90750  194.3100
```

```
## 385       in    16.51000   15.24000   39.37000     34.29000  152.4000
## 386       in    18.41500   19.68500   45.72000     24.13000  213.3600
## 387       cm    19.50000   22.00000   38.50000     38.50000  211.0000
## 388       cm    20.00000   20.15000   41.75000     24.75000  218.2500
## 389       cm    19.75000   22.50000   43.00000     22.75000  221.7500
## 390       cm    19.75000   22.45000   45.40000     31.00000  239.0000
## 391       cm    20.40000   21.90000   46.50000     26.75000  229.7500
## 392       cm    19.70000   23.00000   44.25000     26.00000  226.0000
## 393       in    18.41500   22.86000   45.72000     23.49500  208.9150
## 394       in    17.78000   19.05000   40.64000     19.05000  194.9450
## 395       in    18.41500   17.46250   41.27500     24.76500  187.3250
## 396       cm    19.35000   19.10000   41.75000     26.00000  221.7500
## 397       cm    19.00000   24.00000   49.00000     23.00000  244.0000
## 398       cm    19.50000   20.50000   46.50000     22.00000  240.0000
## 399       cm    21.00000   22.50000   47.50000     25.00000  236.0000
## 400       cm    17.00000   21.00000   43.00000     21.00000  216.0000
## 401       cm    21.00000   24.00000   45.00000     20.50000  223.5000
## 402       cm    17.25000   21.25000   40.75000     21.25000  207.0000
## 403       cm    20.00000   20.00000        NaN     29.00000  236.0000
## 404       cm    18.00000   18.00000   43.00000     20.50000  206.0000
## 405       cm    19.00000   22.00000   46.00000     25.50000  228.5000
## 406       cm    17.00000   19.00000   40.00000     20.00000  210.0000
## 407       cm    17.35000   21.80000   44.80000     28.15000  209.7500
## 408       cm    17.35000   19.90000   41.80000     30.35000  206.0000
## 409       cm    16.85000   16.95000   39.45000     23.55000  198.3500
## 410       cm    17.75000   19.95000   42.80000     26.55000  199.6500
## 411       cm    19.30000   23.20000   45.10000     36.55000  222.3500
## 412       cm    15.25000   19.65000   40.75000     29.25000  203.9000
## 413       cm    16.45000   18.20000   41.70000     29.95000  207.7000
## 414       cm    16.65000   18.95000   44.20000     32.30000  211.2500
## 415       cm   175.20000   21.35000   41.90000     32.05000  216.0500
## 416       cm    17.60000   17.85000   43.25000     30.05000  210.2000
## 417       cm    20.25000   22.10000   44.75000     22.75000  232.5000
## 418       cm    18.75000   19.50000   46.12500     26.75000  218.4400
## 419       cm    19.59250   19.84250   40.82000     22.62500  200.9775
## 420       cm    18.57375   18.89125   43.18000     19.36750  203.0412
## 421       cm    20.00250   22.38375   44.60875     26.19375  230.6637
## 422       cm    16.98625   19.05000   39.68750     22.86000  207.9625
## 423       cm    15.24000   17.30375   33.02000     17.78000  167.6400
## 424       cm    19.68500   22.86000   42.54500     28.57500  227.3300
## 425       cm    17.78000   18.09750   38.73500     28.57500  219.0750
## 426       cm    17.46250   18.73250   38.73500     28.25750  212.7250
##     foot.length floor.kneepit floor.hip floor.armpit my.ethnicity my.gender
## 1      21.65000      37.50000  87.75000     123.5000            w         f
## 2      23.00000      50.25000 102.25000     140.7500            h         m
## 3      20.00000      41.00000 102.00000     139.0000            b         m
## 4      23.00000      39.00000  88.00000     127.0000            w         f
## 5      25.00000      42.00000  99.00000     144.0000            w         f
## 6      25.40000      42.25000  96.00000     131.3000            w         m
## 7      21.95000      38.50000  89.50000     122.0000            w         f
## 8      22.00000      38.50000  88.00000     123.0000            w         m
## 9      26.00000      45.00000  96.00000     135.0000            w         f
## 10     23.30000      38.50000  88.00000     127.0000            w         f
## 21     21.80000      40.90000  88.90000     116.5000            w         f
```

```
## 22     24.90000      51.25000 105.00000     143.8500          w         m
## 23     22.75000      41.95000  90.15000     118.8500          w         f
## 24     23.65000      46.50000 103.35000     127.5000          a         f
## 25     22.30000      43.60000  99.50000     126.0000          w         f
## 26     24.00000      45.45000  92.15000     122.5000          b         f
## 27     26.20000      45.25000 102.45000     141.5000          w         m
## 28     23.65000      44.90000  95.25000     132.0000          w         f
## 29     21.75000      45.85000 101.40000     130.1500          w         m
## 30     22.15000      41.00000  95.60000     119.9000          w         f
## 31     28.57500      48.57750 104.45750     146.6850          w         m
## 32     16.19250      32.86125  65.08750      88.9000          w         f
## 33     18.73250      31.59125  68.89750      90.1700          w         f
## 34     26.67000      50.48250 108.42625     144.6213          w         m
## 35     22.22500      43.49750  97.15500     131.1275          w         f
## 36     18.89125      30.79750  67.78625      89.8525          w         f
## 37     23.97125      49.53000  93.34500     125.4125          w         f
## 38     24.92375      44.29125  95.56750     138.7475          w         f
## 39     22.54250      43.33875  93.34500     128.2700          w         f
## 40     26.03500      50.00752 106.83875     145.7325          w         m
## 41     23.81250      43.33875  95.72625     132.3975          w         f
## 75     26.50000      43.25000  93.75000     135.0000          w         m
## 76     25.40000      45.66000  99.03000     135.9500          w         m
## 77     24.00000      44.00000  95.65000     131.2500          w         m
## 78     22.50000      40.50000  88.00000     120.0000          w         f
## 79     23.00000      41.50000  90.00000     123.0000          w         f
## 80     26.00000      47.00000 101.00000     139.0000          w         m
## 81     26.00000      46.00000 100.00000     138.0000          w         m
## 82     23.00000      41.00000  88.50000     122.0000          h         f
## 83     26.00000      47.00000 101.00000     139.0000          w         m
## 84     26.00000      47.00000 101.50000     139.0000          w         m
## 85     28.00000      46.50000 106.00000     137.0000          w         m
## 86     23.00000      44.25000 100.75000     135.2500          w         f
## 87     23.00000      39.50000  82.25000     121.5000          a         m
## 88     20.00000      43.00000 104.00000     139.0000          a         m
## 89     26.75000      49.00000 100.50000     129.5000          w         m
## 90     25.25000      45.00000 102.00000     128.0000          w         f
## 91     24.00000      42.00000  94.00000     130.0000          w         f
## 92     25.75000      49.00000 100.50000     137.0000          w         m
## 93     29.00000      56.00000 103.00000     141.0000          w         m
## 94     25.00000      51.00000  92.50000     139.5000          w         m
## 95     13.50000      42.00000  84.75000     124.7500          w         f
## 96     28.50000      53.00000 113.00000     144.0000          w         m
## 97     25.08250      45.72000  93.98000     132.0800          w         m
## 98          NaN           NaN       NaN          NaN          w         f
## 99          NaN           NaN       NaN          NaN          w         m
## 100         NaN           NaN       NaN          NaN          w         f
## 101         NaN           NaN       NaN          NaN          w         f
## 102         NaN           NaN       NaN          NaN          w         m
## 103         NaN           NaN       NaN          NaN          w         f
## 104         NaN           NaN       NaN          NaN          w         m
## 105         NaN           NaN       NaN          NaN          w         f
## 106         NaN           NaN       NaN          NaN          w         m
## 107    24.44750      48.26000  97.15500     133.3500          w         m
## 108    22.86000      45.72000 101.28250     124.4600          w         f
```

```
## 109    27.62250      49.53000  98.10750     137.7950           w         m
## 110         NaN           NaN       NaN          NaN           w         m
## 111         NaN           NaN       NaN          NaN           w         f
## 112         NaN           NaN       NaN          NaN           w         f
## 113         NaN           NaN       NaN          NaN           w         f
## 114         NaN           NaN       NaN          NaN           w         m
## 115         NaN           NaN       NaN          NaN           w         m
## 116         NaN           NaN       NaN          NaN           h         f
## 117    29.21000      45.72000 104.14000     152.4000           w         m
## 118    22.86000      38.10000  92.07500     129.0000           a         f
## 119    22.86000      34.92500  90.17000     118.1100           a         f
## 120    21.59000      37.46500  90.17000     112.3950           w         m
## 121    20.32000      35.56000  79.37500     106.0450           w         m
## 122    20.32000      33.02000  80.01000     104.1400           w         m
## 123    28.00000      50.00000       NaN     135.0000           w         m
## 124    29.00000      54.00000       NaN     143.0000         nat         m
## 125    21.59000      38.10000  78.74000     111.7600          pi         f
## 126    26.75000      43.50000  98.75000     148.5000           w         m
## 127    24.80000      53.30000       NaN     120.6500           w         m
## 128    25.40000      44.80000       NaN     106.0500           w         m
## 129    30.50000      49.20000       NaN     118.7500           w         m
## 130    24.25000      41.60000       NaN     104.1500           w         f
## 131    28.25000      54.60000       NaN     125.7500           w         m
## 132    30.00000      50.00000       NaN     143.0000           w         m
## 133    27.00000      47.80000       NaN     123.8500           w         m
## 134    26.00000      51.00000       NaN     120.0000          pi         m
## 135    24.50000      47.25000       NaN     113.2500           w         m
## 136    25.50000      44.25000       NaN     113.2500           w         m
## 227    23.75000      45.50000 100.50000     126.2500           w         f
## 228    27.50000      49.00000 101.50000     137.7500           w         m
## 229    25.75000      47.25000  99.75000     135.0000           w         f
## 230    25.00000      45.75000 100.50000     136.0000           w         f
## 231    30.00000      49.50000 109.75000     151.0000           w         m
## 232    27.25000      49.50000 100.50000     131.7500           w         f
## 233    24.25000      48.50000 103.00000     132.2500           w         f
## 234    26.75000      49.75000  95.50000     137.7500           w         m
## 235    14.75000      23.50000  46.75000      69.5000           h         f
## 236    25.25000      50.50000 103.50000     144.2500           w         m
## 237    23.50000      42.00000  93.50000     115.5000           w         f
## 238    26.50000      46.00000 103.00000     126.0000           w         f
## 239    23.50000      40.00000  94.00000     123.5000           w         f
## 240    26.50000      49.00000 103.00000     133.5000           w         m
## 241    26.00000      50.00000 102.00000     130.0000           w         f
## 242    27.00000      50.00000 105.00000     133.0000           w         m
## 243    23.35000      40.40000  96.15000     122.6000           a         f
## 244    35.50000      74.00000 101.00000     133.0000           w         f
## 245    30.00000      58.00000 104.00000     147.0000           l         m
## 246    23.00000      48.00000  35.00000     106.0000           a         m
## 277    28.50000      44.00000 100.50000     142.5000           w         m
## 278    25.25000      40.50000  96.50000     134.5000           w         f
## 279    28.00000      44.50000 104.25000     142.0000           w         m
## 280    28.00000      47.00000 101.50000     145.0000           w         m
## 281    23.00000      41.50000  97.25000     127.5000           w         f
## 282    26.00000      48.50000 108.00000     144.0000           w         m
```

```
## 283    25.00000      43.50000  95.50000     135.7500          wf         m
## 284    28.50000      43.00000  95.50000     142.0000           w         m
## 285    24.50000      39.00000  94.50000     126.0000           w         f
## 286    27.00000      44.00000  98.00000     138.0000           w         m
## 297    21.79320      37.35070  88.58250     123.3932           w         f
## 298    27.07640      50.05070 102.33660     135.8900           w         m
## 299    21.99640      41.37660  86.48700     123.7107           w         f
## 300    25.11425      45.24375 100.11410     136.3663           w         m
## 301    24.13000      43.18000  93.98000     130.8100           w         f
## 302    26.03500      52.07000 107.63250     154.3050           w         m
## 303    22.86000      43.18000  86.80450     129.0637           w         f
## 304    24.33320      42.92600 102.85730     135.0645           w         f
## 305    27.62250      50.80000 104.77500     146.3675           w         m
## 306    22.54250      42.86250  96.08820     130.8100           w         f
## 307    26.00000      47.75000  96.00000     129.0000           a         m
## 308    25.00000      48.50000  94.75000     126.5000           a         f
## 309    23.00000      43.50000  88.50000     119.5000           a         f
## 310    24.00000      48.00000  89.50000     110.5000           a         f
## 311    24.00000      49.50000  96.00000     126.5000           a         f
## 312    25.00000      47.00000  93.50000     130.0000           a         m
## 313    24.00000      47.00000  95.75000     121.0000           a         f
## 314    22.50000      45.25000  93.25000     122.0000           a         f
## 315    22.50000      47.50000  93.00000     122.0000           a         m
## 316    24.00000      49.00000  98.00000     131.5000           a         m
## 317    25.40000      42.22750  89.53500     150.8125           w         m
## 318    23.49500      42.86250  96.52000     130.8100           w         f
## 319    26.67000      45.72000 105.41000     132.0800           w         m
## 320    21.59000      38.10000  87.63000     116.8400           w         f
## 321    25.08250      42.22750 103.82250     141.6050           w         m
## 322    23.81250      41.91000  79.69250     115.5700           w         f
## 323    24.44750      41.27500  90.17000     124.4600           w         f
## 324    25.71750      46.35500 102.23500     137.1600           w         m
## 325    24.76500      48.26000  96.52000     116.8400           w         m
## 326    28.25750      48.26000 104.77500     150.1775           w         m
## 327    21.75000      35.75000  92.50000     123.0000           a         f
## 328    25.25000      44.00000 100.00000     135.5000           a         m
## 329    28.37500      51.50000 105.12500     156.5000           w         m
## 330    26.75000      52.37500 109.00000     149.2500           w         f
## 331    23.50000      40.25000  84.75000     130.0000           a         f
## 332    23.50000      47.50000 102.50000     143.5000           w         m
## 333    26.50000      45.50000 100.75000     127.0000           a         m
## 334    22.30000      40.00000  96.50000     132.7500           a         f
## 335    24.42500      39.25000  91.50000     133.8750           w         m
## 337    26.00000      45.50000  97.00000     131.5000          ca         m
## 338    23.25000      42.00000  88.00000     125.5000           a         f
## 339    22.00000      38.00000  78.50000     108.0000           a         m
## 340    23.75000      44.00000  86.00000     119.0000           a         m
## 341    23.50000      40.50000  83.50000     122.5000           a         f
## 342    26.00000      49.00000  96.50000     134.5000           w         m
## 343    21.00000      43.00000  79.00000     111.5000           a         f
## 344    24.75000      45.00000  89.50000     120.5000          ca         m
## 345    22.75000      42.25000  89.00000     117.5000          ca         f
## 346    23.00000      39.50000  87.50000     112.0000          ca         f
## 347    27.94000      53.34000  99.06000     144.1450           w         m
```

```
## 348    23.81250      42.22750  90.17000     125.7300           a         m
## 350    26.03500      44.25950 105.53700     134.8740          al         m
## 351    26.92400      50.03800 107.18800     142.7480           w         f
## 352    23.17750      44.13250  91.75750     127.0000          al         f
## 353    23.49500      51.43500 100.01250     143.5100           w         f
## 354    24.76500      45.08500  92.07500     127.6350           w         m
## 355    29.59100      47.75200 112.39500     153.9240           w         m
## 356    23.17750      46.99000  98.74250     132.0800           w         f
## 357    26.35000      45.10000  94.75000     141.0000           w         f
## 358    25.50000      45.00000  93.00000     142.1000           w         f
## 359    26.55000      48.05000  94.00000     143.0000           w         f
## 360    21.55000      39.25000  82.00000     119.2500           w         f
## 361    24.20000      41.25000  89.00000     126.4500           w         f
## 362    24.20000      42.00000  84.10000     122.6000           w         m
## 363    24.40000      49.00000  87.90000     104.1500           w         f
## 364    25.75000      41.75000  91.75000     132.5000           w         f
## 365    28.25000      47.50000  96.25000     147.0000           w         m
## 366    26.00000      42.00000  93.00000     130.0000           a         m
## 367    24.30000      46.05000  96.75000     127.6000           a         f
## 368    26.70000      51.70000 103.20000     136.2500           w         m
## 369    22.00000      41.00000  91.00000     119.7000           a         f
## 370    25.00000      44.35000  98.50000     131.5000           w         m
## 371    24.15000      43.05000  92.10000     129.1000           a         f
## 372    30.50000      73.55000 101.60000     144.1500           w         m
## 373    22.15000      45.90000  91.45000     132.0000           w         f
## 374    26.50000      43.00000  92.50000     126.2500           h         f
## 375    25.85000      50.50000  94.55000     133.5000          pi         f
## 376    27.50000      45.70000  94.00000     131.4500           h         f
## 377    26.22550      42.22750  88.90000     141.6050           b         m
## 378    22.22500      40.64000  83.82000     114.3000           b         f
## 379    24.13000      48.99660  91.44000     129.5400           b         m
## 380    25.40000      48.26000  96.52000     123.1900           b         m
## 381    26.35250      44.76750  87.63000     130.4925           b         m
## 382    26.67000      44.76750  82.55000     127.9525           a         m
## 383    27.94000      45.72000  84.77250     130.4925           w         m
## 384    21.90750      40.32250  84.77250     130.8100           w         f
## 385    19.68500      46.35500  90.17000     115.5700           b         f
## 386    26.67000      41.27500  87.63000     139.7000           a         m
## 387    24.00000      46.50000  95.75000     127.0000           w         m
## 388    25.25000      51.25000 101.25000     133.0000           w         m
## 389    26.00000      44.00000 100.00000     144.7500           l         m
## 390    26.30000      54.25000 110.50000     155.5000           w         m
## 391    26.05000      50.75000 113.00000     146.5000           w         m
## 392    26.60000      51.50000 107.25000     144.0000           w         m
## 393    26.98750      48.26000  97.15500     137.1600           w         m
## 394    22.86000      44.45000  88.90000     124.4600           w         f
## 395    21.59000      40.64000  83.18500     123.8250           a         o
## 396    25.50000      51.00000 106.50000     137.5000           a         m
## 397    27.00000      46.00000 103.00000     144.0000           w         m
## 398    26.00000      45.00000 101.00000     145.0000           w         m
## 399    26.00000      46.00000 105.50000     141.0000           w         m
## 400    24.00000      45.00000  99.00000     143.5000           w         f
## 401    27.00000      49.00000 101.00000     147.0000           w         m
## 402    23.25000      40.50000  95.50000     122.0000         nat         f
```

```
## 403    28.00000      47.00000  95.75000     146.0000            w         m
## 404    23.75000      43.00000  99.00000     127.0000            w         f
## 405    26.50000      53.50000  99.25000     137.0000           ji         m
## 406    23.00000      43.00000  96.00000     120.0000            w         f
## 407    22.65000      41.85000  91.25000     123.3500            w         f
## 408    21.85000      42.25000  99.85000     127.2000            w         f
## 409    22.15000      52.05000  92.05000     126.3000            w         f
## 410    38.75000      24.55000  96.75000     122.8000            w         f
## 411    28.90000      57.60000 101.10000     144.5000            w         m
## 412    21.75000      40.95000  98.60000     124.9000            w         f
## 413    24.15000      49.90000  90.65000     130.3000            w         f
## 414    25.65000      50.80000  87.80000     131.7500            w         f
## 415    25.25000      54.35000  96.70000     139.9500            w         f
## 416    24.90000      47.80000  91.70000     131.0500            w         f
## 417    28.75000      46.25000 112.50000     144.7500            w         m
## 418    22.25000      45.61000  92.75000     140.5000            w         m
## 419    24.38400      40.88250  93.24000     125.2300            a         f
## 420    21.59000      41.27500  94.79000     123.1900            a         f
## 421    27.62250      45.08500 110.49000     134.6200            w         m
## 422    23.97125      40.64000  99.06000     121.2850            w         f
## 423    21.11375      36.19500  78.74000      99.3775            w         m
## 424    25.40000      41.91000 101.28250     133.9850            w         m
## 425    24.13000      43.18000  95.88500     133.9850            w         f
## 426    21.59000      39.37000  95.25000     126.6825            w         f
##     new.units my.eye my.writing my.swinging my.eye.color height/height
## 1          cm      b          r           r           bl             1
## 2          cm      b          r           r           br             1
## 3          cm      b          l           l           br             1
## 4          cm      b          r           r           bl             1
## 5          cm      l          l           l           bl             1
## 6          cm      b          r           r           ha             1
## 7          cm      b          r           r           bl             1
## 8          cm      b          r           r           br             1
## 9          cm      r          r           r           br             1
## 10         cm      b          r           r           bl             1
## 21         cm      r          r           r           bl             1
## 22         cm      r          r           l           bl             1
## 23         cm      r          r           l           bl             1
## 24         cm      r          r           r           br             1
## 25         cm      l          l           l           gr             1
## 26         cm      r          r           l           br             1
## 27         cm      l          r           l           bl             1
## 28         cm      r          l           l           bl             1
## 29         cm      l          r           l           bl             1
## 30         cm      r          r           l           bl             1
## 31         cm      r          r           r        bl-gr             1
## 32         cm      r          l           l           bl             1
## 33         cm      l          r           r           br             1
## 34         cm      l          r           r           ha             1
## 35         cm      r          l           l           gr             1
## 36         cm      r          r           l           ha             1
## 37         cm      l          r           r           br             1
## 38         cm      l          r           r           br             1
## 39         cm      r          r           r           bl             1
```

```
## 40        cm      r         r         r         gr          1
## 41        cm      l         r         r         bl          1
## 75        cm      r         r         l         bl          1
## 76        cm      r         r         r         br          1
## 77        cm      r         r         r         br          1
## 78        cm      r         r         r         gr          1
## 79        cm      r         r         r         br          1
## 80        cm      r         r         r         br          1
## 81        cm      r         r         r         br          1
## 82        cm      b         l         l         bl          1
## 83        cm      r         r         l         br          1
## 84        cm      r         r         r         br          1
## 85        cm      l         r         r         ha          1
## 86        cm      r         r         r         bl          1
## 87        cm   <NA>         r         r       <NA>          1
## 88        cm      r         r         r         br          1
## 89        cm      r         r         r         bl          1
## 90        cm      r         r         r         ha          1
## 91        cm      l         r         r         gr          1
## 92        cm      l         l         r         gr          1
## 93        cm      r         r         r         gr          1
## 94        cm      l         r         r         bl          1
## 95        cm      r         r         r         bl          1
## 96        cm      l         r         r         bl          1
## 97        cm      l         r         r         bl          1
## 98        cm      r         r         r         bl          1
## 99        cm      r         r         r         bl          1
## 100       cm   <NA>         b         b         bl          1
## 101       cm      l         r         r         ha          1
## 102       cm      r         l         l         bl          1
## 103       cm      l         r         r         bl          1
## 104       cm      l         l         r         br          1
## 105       cm      r         r         r         bl          1
## 106       cm      r         r         r         bl          1
## 107       cm      l         r         r         bl          1
## 108       cm      r         r         r         gr          1
## 109       cm      r         r         r         br          1
## 110       cm      r         r         r         bl         NA
## 111       cm      r         r         r         br         NA
## 112       cm      l         r         r         br         NA
## 113       cm      r         r         r         br         NA
## 114       cm      r         r         r         br         NA
## 115       cm      r         r         r         gr         NA
## 116       cm      l         r         r         br         NA
## 117       cm      l         r         l         br          1
## 118       cm      r         l         r         br          1
## 119       cm      r         l         r         bl          1
## 120       cm      l         r         l         br          1
## 121       cm      l         r         l         br          1
## 122       cm      l         r         l         br          1
## 123       cm      r         l         r         br         NA
## 124       cm      l         l         r         br         NA
## 125       cm      r         l         l         br          1
## 126       cm      l         r         l         br          1
```

```
## 127        cm      l          r          r          bl             1
## 128        cm      l          r          r          bl             1
## 129        cm      r          l          r          bl             1
## 130        cm      r          r          r          bl             1
## 131        cm      l          r          r          bl             1
## 132        cm      r          r          r          bl             1
## 133        cm      r          r          r          ha             1
## 134        cm      r          r          r          br             1
## 135        cm      r          r          r          br             1
## 136        cm      r          r          r          gr             1
## 227        cm      l          r          r          ha             1
## 228        cm      l          r          r          br             1
## 229        cm      r          r          r          br             1
## 230        cm      r          r          r          br             1
## 231        cm      l          r          r          bl             1
## 232        cm      r          r          r          ha             1
## 233        cm      r          r          r          br             1
## 234        cm      r          r          r          bl             1
## 235        cm   <NA>          b          b          br             1
## 236        cm      l          l          l          bl             1
## 237        cm      r          r          r          br             1
## 238        cm      r          r          r          br             1
## 239        cm      r          r          r          br             1
## 240        cm      r          r          r          ha             1
## 241        cm      r          r          r          br             1
## 242        cm      r          r          r          br             1
## 243        cm      r          r          r          br             1
## 244        cm      r          r          r          br             1
## 245        cm      l          r          r          ha             1
## 246        cm      r          r          r           b             1
## 277        cm      l          r          r          ha             1
## 278        cm      l          r          r          ha             1
## 279        cm      r          r          r          ha             1
## 280        cm      r          r          r          ha             1
## 281        cm      r          r          r       bl-gr             1
## 282        cm      l          r          l          ha             1
## 283        cm      l          l          r          br             1
## 284        cm      l          r          r          bl             1
## 285        cm      l          r          r          br             1
## 286        cm      r          r          r          ha             1
## 297        cm      r          r          r          bl             1
## 298        cm      r          r          r          br             1
## 299        cm      r          r          r          bl             1
## 300        cm      r          r          r          bl             1
## 301        cm      r          r          r          br             1
## 302        cm      r          r          r          ha             1
## 303        cm      r          r          r          ha             1
## 304        cm      r          r          r          ha             1
## 305        cm      r          r          r          ha             1
## 306        cm      r          r          r          bl             1
## 307        cm      r          r          r          br             1
## 308        cm      r          r          r          br             1
## 309        cm      r          r          l          br             1
## 310        cm      r          r          l          br             1
```

```
## 311        cm      r          r          r          br            1
## 312        cm      r          r          r           b            1
## 313        cm      b          r          l          br            1
## 314        cm      r          r          l          br            1
## 315        cm      b          r          r           b            1
## 316        cm      b          r          r          br            1
## 317        cm      r          r          r          br            1
## 318        cm      l          l          l          br            1
## 319        cm      r          r          r          bl            1
## 320        cm      r          r          r          bl            1
## 321        cm      r          r          r          ha            1
## 322        cm      r          r          r          bl            1
## 323        cm      r          r          r          bl            1
## 324        cm      r          r          r          br            1
## 325        cm      r          r          r          bl            1
## 326        cm      r          r          r          ha            1
## 327        cm      r          r          r          br            1
## 328        cm      r          r          r          br            1
## 329        cm      l          r          r          bl            1
## 330        cm      r          r          r          gr            1
## 331        cm      l          r          r          br            1
## 332        cm      l          r          r          br            1
## 333        cm      r          r          r          br            1
## 334        cm      l          l          r          br            1
## 335        cm      l          l          l          ha            1
## 337        cm      b          r          l          br            1
## 338        cm      b          r          l          br            1
## 339        cm      l          r          l          br            1
## 340        cm      l          l          r          br            1
## 341        cm      r          r          l          br            1
## 342        cm      r          r          l          bl            1
## 343        cm      b          r          l          br            1
## 344        cm      b          l          r          br            1
## 345        cm      b          r          l          br            1
## 346        cm      r          r          l          br            1
## 347        cm      r          r          r          br            1
## 348        cm      b          r          r          br            1
## 350        cm      r          r          r          br            1
## 351        cm      r          r          r          bl            1
## 352        cm      r          r          r          br            1
## 353        cm      r          r          r          bl            1
## 354        cm      r          r          r          bl            1
## 355        cm      r          r          r          br            1
## 356        cm      r          r          r          br            1
## 357        cm      r          r          r          br            1
## 358        cm      r          r          r       gr-g             1
## 359        cm      r          r          r           g            1
## 360        cm      r          r          r       bl-gr            1
## 361        cm      r          r          r       bl-gr            1
## 362        cm      l          r          r        bl-g            1
## 363        cm      l          r          r          br            1
## 364        cm      r          r          r          br            1
## 365        cm      l          r          r          bl            1
## 366        cm      r          r          r          br            1
```

```
## 367        cm      b          r          r          br          1
## 368        cm      b          b          r          br          1
## 369        cm      l          r          r          br          1
## 370        cm      r          r          r          gr          1
## 371        cm      b          r          r          br          1
## 372        cm      r          r          r          bl          1
## 373        cm      b          r          r          br          1
## 374        cm      l          r          r          br          1
## 375        cm      b          r          r          br          1
## 376        cm      r          r          r          ha          1
## 377        cm      r          r          r          br          1
## 378        cm      l          r          r          br          1
## 379        cm      l          l          l          br          1
## 380        cm      l          r          r          br          1
## 381        cm      r          l          l          br          1
## 382        cm      l          r          r          br          1
## 383        cm      l          l          l          br          1
## 384        cm      r          r          r          br          1
## 385        cm      l          l          l          bl          1
## 386        cm      l          r          r          br          1
## 387        cm      l          r          r          bl          1
## 388        cm      l          r          r          bl          1
## 389        cm   <NA>          l          l          br          1
## 390        cm      r          r          r           g          1
## 391        cm      r          r          r          bl          1
## 392        cm      r          r          r          br          1
## 393        cm   <NA>          r          r          bl          1
## 394        cm      r          r          l          gr          1
## 395        cm      r          r          r          br          1
## 396        cm      r          l          r          br          1
## 397        cm      r          r          r          ha          1
## 398        cm      r          r          r          bl          1
## 399        cm      r          r          r          bl          1
## 400        cm      r          r          r          ha          1
## 401        cm      r          r          r          bl          1
## 402        cm      r          r          r          bl          1
## 403        cm      r          r          r          br          1
## 404        cm      r          r          r          br          1
## 405        cm      r          l          r          br          1
## 406        cm      r          r          r          br          1
## 407        cm      r          l          l          bl          1
## 408        cm      l          r          r          bl          1
## 409        cm      l          r          r          br          1
## 410        cm      r          l          r          bl          1
## 411        cm      l          r          r          bl          1
## 412        cm      r          r          r          br          1
## 413        cm      l          r          r          gr          1
## 414        cm      l          r          r          br          1
## 415        cm      r          r          r          bl          1
## 416        cm      r          r          l          ha          1
## 417        cm      r          l          l          gr          1
## 418        cm      r          r          b          bl          1
## 419        cm      r          r          r          br          1
## 420        cm      l          l          l          br          1
```

```
## 421        cm      r          r          r          bl             1
## 422        cm      r          r          r          bl             1
## 423        cm      r          r          r          bl             1
## 424        cm      r          r          r          gr             1
## 425        cm      r          r          r          bl             1
## 426        cm      r          r          r          bl             1
##     head.height/height head.c/height arm.span/height floor.navel/height
## 1            0.1512163            NA       0.9743590                  NA
## 2            0.1270115            NA       0.9597701                  NA
## 3            0.1071429            NA       0.9345238                  NA
## 4            0.1402439            NA       0.9451220                  NA
## 5            0.1436464            NA       1.0110497                  NA
## 6            0.1440461            NA       1.0723431                  NA
## 7            0.1458198            NA       0.9727803                  NA
## 8            0.1490603            NA       0.9786131                  NA
## 9            0.1158078            NA       0.8917197                  NA
## 10           0.1402439            NA       0.9408537                  NA
## 21           0.1296552     0.3813793       0.9772414          0.5958621
## 22           0.1342541     0.3232044       0.9723757          0.6215470
## 23           0.1199214     0.3584535       1.0458716          0.5982962
## 24           0.1238938     0.3303835       0.9734513          0.6218289
## 25           0.1158278     0.3468769       0.9211643          0.5821710
## 26           0.1445312     0.4166667       1.0488281          0.6236979
## 27           0.1152981     0.3335208       1.0281215          0.5849269
## 28           0.1319073     0.3481878       0.9845514          0.6060606
## 29           0.1322751     0.3392122       0.9911817          0.5937684
## 30           0.1312665     0.3634565       1.0290237          0.6200528
## 31           0.1326165     0.3189964       1.0394265          0.5913978
## 32           0.1452514     0.4357542       0.9636872          0.5782123
## 33           0.1465969     0.4031414       0.9685864          0.5785340
## 34           0.1293706     0.3286713       1.0034965          0.5961538
## 35           0.1417323     0.3385827       0.9960630          0.6062992
## 36           0.1333333     0.4444444       1.0138889          0.5694444
## 37           0.1226994     0.3578732       0.9959100          0.5889571
## 38           0.1314286     0.3371429       1.0038095          0.5600000
## 39           0.1411290     0.3548387       1.0000000          0.5967742
## 40           0.1294326     0.3244681       1.0230496          0.5780142
## 41           0.1405622     0.3594378       1.0160643          0.6064257
## 75           0.1179775     0.3314607       0.9887640          0.5533708
## 76           0.1118881     0.3193657       1.2027972          0.6001872
## 77           0.1117446     0.3192702       1.2029647          0.6003421
## 78           0.1118012     0.3167702       1.1987578          0.5993789
## 79           0.1121212     0.3212121       1.2030303          0.6000000
## 80           0.1129032     0.3172043       1.2043011          0.6021505
## 81           0.1114130     0.3206522       1.2010870          0.5978261
## 82           0.1132075     0.3270440       1.2264151          0.6100629
## 83           0.1132075     0.3180593       1.2021563          0.5983827
## 84           0.1135135     0.3297297       1.2108108          0.6000000
## 85           0.1256831     0.3169399       1.0000000          0.5956284
## 86           0.1231231     0.3213213       0.9849850          0.5945946
## 87           0.1460317     0.3492063       1.0158730          0.5714286
## 88           0.1282799     0.3090379       0.3790087          0.6239067
## 89           0.1292135     0.3314607       0.9606742          0.5674157
## 90           0.1190476     0.3333333       0.9880952          0.5892857
```

```
## 91          0.1588235   0.3294118   1.0235294   0.5823529
## 92          0.1348315   0.3258427   1.0140449   0.5842697
## 93          0.1366120   0.1256831   0.8852459   0.5901639
## 94          0.1542857   0.3200000   0.4285714   0.5885714
## 95          0.1304348   0.3229814   0.3819876   0.6024845
## 96          0.1297297   0.3081081   1.0378378   0.5891892
## 97          0.1376812   0.3362319   1.0253623   0.5579710
## 98                 NA   0.3571429   0.9841270          NA
## 99                 NA   0.4823529   0.9647059          NA
## 100                NA   0.5820896   0.9402985          NA
## 101                NA   0.3492063   1.0000000          NA
## 102                NA   0.3507246   0.9565217          NA
## 103                NA   0.3538462   1.0076923          NA
## 104                NA   0.3461538   0.9807692          NA
## 105                NA   0.3467742   1.0322581          NA
## 106                NA   0.3229167   1.0138889          NA
## 107         0.1340580   0.3333333   1.0326087   0.5652174
## 108         0.1307692   0.3230769   0.9846154   0.5572380
## 109         0.1392857   0.3285714   1.0571429   0.5511811
## 110                NA          NA          NA          NA
## 111                NA          NA          NA          NA
## 112                NA          NA          NA          NA
## 113                NA          NA          NA          NA
## 114                NA          NA          NA          NA
## 115                NA          NA          NA          NA
## 116                NA          NA          NA          NA
## 117         0.1250000          NA   1.0472973          NA
## 118         0.1259843          NA   0.9842520          NA
## 119         0.1465517          NA   1.0215517          NA
## 120         0.1511111          NA   1.0311111          NA
## 121         0.1626794          NA   1.0143541          NA
## 122         0.1370968          NA   0.8467742          NA
## 123                NA          NA          NA          NA
## 124                NA          NA          NA          NA
## 125         0.1551724          NA          NA          NA
## 126         0.1191136   0.3324100   0.9916898   0.5955679
## 127         0.1408763   0.3100388   0.9295618   0.7820300
## 128         0.1398046   0.3492063   0.9004884   0.7521368
## 129         0.1336661   0.3311148   0.9068220   0.7748197
## 130         0.1440252   0.3433962   0.8949686   0.7748428
## 131         0.1403315   0.3331492   0.9116022   0.8348066
## 132         0.1263158   0.3052632   0.9105263   0.7526316
## 133         0.1397174   0.2956567   0.9183673   0.7875458
## 134         0.1638889   0.3277778   0.9500000   0.7777778
## 135         0.1420118   0.3431953   0.9349112   0.7840237
## 136         0.1629213   0.3202247   0.9438202   0.7106742
## 227         0.1533101   0.3902439   1.1498258   0.7212544
## 228         0.1355932   0.3220339   0.9887006   0.6045198
## 229         0.1228571   0.3400000   1.0000000   0.5942857
## 230         0.1228571   0.3171429   0.9942857   0.5914286
## 231         0.1242938   0.3276836   1.0225989   0.6242938
## 232         0.1204819   0.3403614   0.9638554   0.6144578
## 233         0.1264368   0.3304598   1.0057471   0.5862069
## 234         0.1256831   0.3142077   0.9398907   0.5956284
```

## 235	0.2150538	0.5483871	0.9731183	0.5268817
## 236	0.1292135	0.3342697	0.9943820	0.5870787
## 237	0.1356448	0.3539999	1.0189903	0.6252895
## 238	0.1393095	0.3331314	1.0692308	0.6299213
## 239	0.1270003	0.3397257	1.0483871	0.5873762
## 240	0.1345741	0.3493200	1.0327273	0.6012885
## 241	0.1317365	0.3293413	1.0239521	0.6287425
## 242	0.1411765	0.3352941	1.0294118	0.6235294
## 243	0.1363636	0.3649351	1.0064935	0.6103896
## 244	0.1431639	0.3489621	1.0606061	0.5965163
## 245	0.1351351	0.3189189	1.0162162	0.5837838
## 246	0.1279070	0.3372093	0.9883721	0.5174419
## 277	0.1468144	0.3351801	1.0055402	0.5734072
## 278	0.1250000	0.3468750	0.9812500	NA
## 279	0.1371429	0.3314286	1.0285714	NA
## 280	0.1277778	0.3250000	1.0277778	NA
## 281	0.1550633	0.3512658	1.0221519	0.6202532
## 282	0.1369863	0.3068493	1.0191781	0.6328767
## 283	0.1547619	0.3392857	0.9940476	0.5863095
## 284	0.1408840	0.3370166	1.0082873	0.5690608
## 285	0.1419355	0.3677419	0.9935484	NA
## 286	0.1363636	0.3323864	1.0056818	NA
## 297	0.1300813	0.3455285	0.9796748	0.5691057
## 298	0.1321429	0.3214286	1.0571429	0.5857143
## 299	0.1377871	0.3423800	0.9853862	0.5720251
## 300	0.1184324	0.3050531	1.0030864	0.5756532
## 301	0.1176471	0.3294118	0.9921569	0.5882353
## 302	0.1250000	0.3194444	1.0208333	0.6180556
## 303	0.1322222	0.3253968	0.9880952	0.5476190
## 304	0.1222642	0.3018868	1.0226415	0.6301887
## 305	0.1081081	0.3108108	1.0168919	0.5912162
## 306	0.1269231	0.3538462	1.0076923	0.6115385
## 307	0.1271676	0.3150289	1.0000000	0.5780347
## 308	0.1077844	0.3173653	1.0000000	0.6107784
## 309	0.1210191	0.3407643	1.0127389	0.5987261
## 310	0.1518987	0.3354430	0.9240506	0.5886076
## 311	0.1388889	0.3456790	1.0061728	0.6049383
## 312	0.1666667	0.3154762	1.0535714	0.5773810
## 313	0.1324503	0.3708609	1.0927152	0.6026490
## 314	0.1946309	0.3624161	0.9932886	0.5939597
## 315	0.1446541	0.3396226	1.0503145	0.5660377
## 316	0.1388889	0.3580247	0.9907407	0.5648148
## 317	0.1441606	0.3467153	1.0437956	0.5985401
## 318	0.1082090	0.3283582	1.0149254	0.5970149
## 319	0.1428571	0.3214286	1.0285714	0.6071429
## 320	0.1583333	0.3666667	1.0000000	0.5708333
## 321	0.1142857	0.3178571	1.0285714	0.6035714
## 322	0.1215686	0.3411765	0.9764706	0.5254902
## 323	0.1328125	0.3515625	0.9921875	0.5859375
## 324	0.1126761	0.3239437	1.0140845	0.6056338
## 325	0.1185771	0.3478261	0.9486166	0.6086957
## 326	0.1137931	0.3137931	1.0137931	0.5862069
## 327	0.1392405	0.3386076	1.0094937	0.5791139
## 328	0.1395349	0.3255814	0.9767442	0.5726744

```
## 329          0.1167979     0.3005249       1.0131234          0.5931759
## 330          0.1192788     0.3079057       1.0291262          0.6158114
## 331          0.1297468     0.3607595       1.0506329          0.5696203
## 332          0.1235955     0.3033708       0.9775281          0.6039326
## 333          0.1156069     0.1242775       1.0346821          0.6011561
## 334          0.1249231     0.3433846       1.0153846          0.5938462
## 335          0.1190476     0.3273810       0.9821429          0.5773810
## 337          0.1301775     0.3431953       1.0236686          0.5976331
## 338          0.1360759     0.3607595       1.0253165          0.5822785
## 339          0.1678832     0.3941606       1.0145985          0.6204380
## 340          0.1481481     0.3456790       1.0123457          0.5740741
## 341          0.1437500     0.3375000       0.9937500          0.5937500
## 342          0.1345029     0.3333333       1.0029240          0.5906433
## 343          0.1428571     0.3928571       1.0214286          0.5928571
## 344          0.1525974     0.3701299       1.0389610          0.6233766
## 345          0.1621622     0.3851351       1.0000000          0.6283784
## 346          0.1554054     0.3648649       0.9932432          0.6216216
## 347          0.1284722     0.3125000       1.0555556          0.5902778
## 348          0.2238806     0.3544776       0.9328358          0.5522388
## 350          0.1164483     0.3173217       1.0043668          0.6040757
## 351          0.1079137     0.3136691       1.0460432          0.6187050
## 352          0.2031250     0.3593750       1.0234375          0.6093750
## 353          0.1182796     0.3118280       0.9928315          0.6021505
## 354          0.1343284     0.3432836       1.0074627          0.5839552
## 355          0.1185637     0.3252033       1.0216802          0.6138211
## 356          0.1250000     0.3272059       1.0018382          0.6029412
## 357          0.1195900     0.3063781       1.0034169          0.6207289
## 358          0.1139601     0.3133903       1.0142450          0.6096866
## 359          0.1164773     0.3181818       1.0113636          0.6193182
## 360          0.1107595     0.3544304       0.9664557          0.5949367
## 361          0.1214623     0.3419811       0.9610849          0.5896226
## 362          0.1265823     0.3375527       1.0036166          0.5726341
## 363          0.1369048     0.3392857       1.0238095          0.5654762
## 364          0.1246291     0.3293769       1.0089021          0.6142433
## 365          0.1155914     0.3198925       1.0150538          0.6155914
## 366          0.1088235     0.3294118       1.0352941          0.6117647
## 367          0.1272943     0.3285968       1.0301954          0.5950266
## 368          0.1259669     0.3093923       1.0524862          0.5977901
## 369          0.1375000     0.3812500       0.9843750          0.5875000
## 370          0.1445087     0.3375723       1.0520231          0.6011561
## 371          0.1349693     0.3374233       1.0429448          0.5950920
## 372          0.1310680     0.3128371       0.9795038          0.5889968
## 373          0.1288344     0.3312883       0.9036810          0.6233129
## 374          0.1377246     0.3323353       1.0239521          0.5988024
## 375          0.1848539     0.3434705       1.0071556          0.5849732
## 376          0.1788909     0.3255814       1.0375671          0.6362552
## 377          0.1190476     0.3492063       1.0476190          0.6150794
## 378          0.1282051     0.3931624       1.0141880          0.6068376
## 379          0.1115385     0.3269231       1.0000000          0.6153846
## 380          0.1014493     0.3231884       0.9710145          0.5942029
## 381          0.1066176     0.2573529       1.0036765          0.5367647
## 382          0.1250000     0.2977941       1.0294118          0.5183824
## 383          0.1214286     0.2714286       1.0428571          0.4892857
## 384          0.1291667     0.3333333       1.0166667          0.6000000
```

```
## 385          0.1487603     0.3801653       1.0247934          0.6280992
## 386          0.1174242     0.3181818       1.0606061          0.5909091
## 387          0.1492537     0.3462687       0.9432836          0.6089552
## 388          0.1304348     0.3518841       1.0115942          0.5913043
## 389          0.1260274     0.3424658       1.0054795          0.5808219
## 390          0.1164021     0.3068783       0.9830688          0.6031746
## 391          0.1291209     0.3241758       1.0027473          0.6263736
## 392          0.1218837     0.3490305       0.9833795          0.6149584
## 393          0.1328413     0.3468635       0.9815498          0.5682657
## 394          0.1290323     0.3467742       0.9677419          0.5887097
## 395          0.1393443     0.3688525       0.9836066          0.5491803
## 396          0.1352113     0.3408451       1.0225352          0.6140845
## 397          0.1243243     0.3189189       1.0594595                 NA
## 398          0.1196809     0.3138298       0.9946809                 NA
## 399          0.1304348     0.3179348       0.9945652                 NA
## 400          0.1271676     0.3294798       1.0000000                 NA
## 401          0.1348315     0.3370787       1.0280899                 NA
## 402          0.1468750     0.3437500       1.0312500                 NA
## 403          0.1300813     0.3035230       1.0325203                 NA
## 404          0.1393939     0.3393939       1.0151515                 NA
## 405          0.1191136     0.3240997       1.0277008                 NA
## 406          0.1455696     0.3544304       1.0316456                 NA
## 407          0.1269841     0.1660562       1.0463980          0.6013431
## 408          0.1252983     0.3442721       0.9892601          0.6062053
## 409          0.1246255     0.3421210       0.9420371          0.6009587
## 410          0.1347690     0.3564295       1.0081149          0.5786517
## 411          0.1124604     0.3384372       0.9244984          0.5623020
## 412          0.1309596     0.3343392       0.9873265          0.6022933
## 413          0.1206483     0.3553421       1.0186074          0.6146459
## 414          0.1136878     0.3190045       0.9915158          0.5955882
## 415          0.1135105     0.3289037       0.9390919          0.5836102
## 416          0.1109175     0.3333333       1.0069686          0.6132404
## 417          0.1303191     0.3111702       0.8324468          0.6050532
## 418          0.1492537     0.3395522       1.0077565          0.5905512
## 419          0.1352459     0.3565574       1.0000000          0.5655738
## 420          0.1274131     0.3411060       0.9806950          0.6171526
## 421          0.1285714     0.3290214       1.0428571          0.6228909
## 422          0.1160000     0.3181102       0.9760000          0.6047244
## 423          0.1428571     0.3655793       1.0000000          0.6149231
## 424          0.1223022     0.3299722       1.0215827          0.6089616
## 425          0.1185185     0.3237095       0.9925926          0.6649169
## 426          0.1250000     0.3260335       1.0156250          0.6059301
##     hand.length/height hand.width.height hand.elbow/height elbow.armpit/height
## 1          0.11143984        0.11932939         0.2294543          0.14792899
## 2          0.10660920        0.11321839         0.2617816          0.14942529
## 3          0.08928571        0.08333333         0.3095238          0.19642857
## 4          0.10365854        0.11585366         0.2378049          0.17682927
## 5          0.11049724        0.13259669         0.2375691          0.15469613
## 6          0.11747759        0.12996159         0.2410371          0.20166453
## 7          0.11049903        0.12184057         0.2362281          0.16202203
## 8          0.11017498        0.11989631         0.2333117          0.15878159
## 9          0.10422698        0.08106543         0.2229299          0.11580776
## 10         0.10365854        0.11585366         0.2359756          0.16890244
## 21         0.11724138        0.11241379         0.2758621          0.20689655
```

```
## 22          0.09889503        0.10276243        0.2544199         0.31491713
## 23          0.11271298        0.11500655        0.2490170         0.14089122
## 24          0.10825959        0.11533923        0.2616519         0.16519174
## 25          0.10430564        0.10733778        0.2577320         0.14099454
## 26          0.11848958        0.12792969        0.2812500         0.19303385
## 27          0.10461192        0.12373453        0.2654668         0.18222722
## 28          0.10219846        0.11229947        0.2620321         0.16636958
## 29          0.10082305        0.11258083        0.2616108         0.14109347
## 30          0.10751979        0.11279683        0.2661609         0.16160950
## 31          0.10842294        0.12275986        0.2724014         0.13978495
## 32          0.11033520        0.12290503        0.2486034         0.15921788
## 33          0.10863874        0.12434555        0.2643979         0.17801047
## 34          0.10926573        0.12587413        0.2692308         0.17482517
## 35          0.10826772        0.12106299        0.2578740         0.18503937
## 36          0.11111111        0.12083333        0.2694444         0.19722222
## 37          0.11758691        0.11809816        0.2627812         0.18353783
## 38          0.10904762        0.12571429        0.2604762         0.18761905
## 39          0.10383065        0.12147177        0.2721774         0.18750000
## 40          0.11347518        0.11879433        0.2721631         0.17375887
## 41          0.10943775        0.12951807        0.2730924         0.18674699
## 75          0.10814607        0.12219101        0.2556180         0.17134831
## 76          0.09790210        0.12587413        0.2545455         0.16243599
## 77          0.09720639        0.12599772        0.2545610         0.15963512
## 78          0.09937888        0.12422360        0.2546584         0.16459627
## 79          0.09696970        0.12727273        0.2545455         0.16060606
## 80          0.09677419        0.12365591        0.2526882         0.16397849
## 81          0.09782609        0.12500000        0.2554348         0.16032609
## 82          0.10062893        0.12578616        0.2578616         0.16666667
## 83          0.09703504        0.12398922        0.2533693         0.16442049
## 84          0.09729730        0.12432432        0.2594595         0.16486486
## 85          0.10655738        0.11612022        0.2213115         0.13934426
## 86          0.10810811        0.11411411        0.2432432         0.15315315
## 87          0.11428571        0.11428571        0.2507937         0.12380952
## 88          0.04664723        0.05830904        0.1749271         0.13411079
## 89          0.11235955        0.12780899        0.1320225         0.08988764
## 90          0.11607143        0.12500000        0.2440476         0.14285714
## 91          0.10441176        0.12058824        0.2647059         0.12352941
## 92          0.10393258        0.12078652        0.2485955         0.16292135
## 93          0.11475410        0.05464481        0.2568306         0.38797814
## 94          0.09428571        0.06142857        0.2485714         0.16571429
## 95          0.09937888        0.06211180        0.2360248         0.14285714
## 96          0.11351351        0.05945946        0.2405405         0.16216216
## 97          0.11123188        0.11992754        0.1641304         0.17391304
## 98          0.10714286        0.11904762               NaN               NaN
## 99          0.10882353        0.13235294               NaN               NaN
## 100         0.10820896        0.13432836               NaN               NaN
## 101         0.10317460        0.11507937               NaN               NaN
## 102         0.10144928        0.11956522               NaN               NaN
## 103         0.10384615        0.12307692               NaN               NaN
## 104         0.10769231        0.12884615               NaN               NaN
## 105         0.10483871        0.11895161               NaN               NaN
## 106         0.10416667        0.11631944               NaN               NaN
## 107         0.10769714        0.11511469        0.2610122         0.39130435
## 108         0.10000000        0.07692308        0.2442308         0.16346154
```

```
## 109        0.11071429        0.06785714        0.2606862        0.14464286
## 110                NA                NA              NaN               NaN
## 111                NA                NA              NaN               NaN
## 112                NA                NA              NaN               NaN
## 113                NA                NA              NaN               NaN
## 114                NA                NA              NaN               NaN
## 115                NA                NA              NaN               NaN
## 116                NA                NA              NaN               NaN
## 117        0.10810811        0.12837838        0.2398649        0.17567568
## 118        0.11023622        0.12598425        0.2362205        0.16535433
## 119        0.11206897        0.12931034        0.2543103        0.15517241
## 120        0.11111111        0.12000000        0.2400000        0.12000000
## 121        0.10526316        0.11961722        0.2392344        0.17224880
## 122        0.09274194        0.10080645        0.1935484        0.14516129
## 123                NA                NA               NA               NaN
## 124                NA                NA               NA               NaN
## 125        0.09482759        0.10351616        0.2413793        0.13793103
## 126        0.10387812        0.11772853        0.2493075        0.14404432
## 127        0.10260677               NaN        0.2659456        0.16028841
## 128        0.10866911               NaN        0.2637363        0.14560440
## 129        0.10593455               NaN        0.2606767        0.14614531
## 130        0.10754717               NaN        0.2672956        0.14402516
## 131        0.10883978               NaN        0.2701657        0.14033149
## 132        0.11315789               NaN        0.2526316        0.15263158
## 133        0.10308739               NaN        0.2642595        0.17111460
## 134        0.10416667               NaN        0.2902778        0.18055556
## 135        0.10650888               NaN        0.2736686        0.15384615
## 136        0.09831461               NaN        0.2471910        0.16292135
## 227        0.11846690        0.13240418        0.2682927        0.18466899
## 228        0.10734463        0.11723164        0.2288136        0.12570621
## 229        0.11000000        0.11000000        0.2300000        0.13571429
## 230        0.10857143        0.10714286        0.2371429        0.14571429
## 231        0.11440678        0.13559322        0.2782486        0.16101695
## 232        0.11295181        0.11746988        0.2424699        0.19427711
## 233        0.10919540        0.11206897        0.2514368        0.13074713
## 234        0.10382514        0.11065574        0.2377049        0.11475410
## 235        0.13172043        0.14247312        0.2715054        0.10752688
## 236        0.11235955        0.11938202        0.2542135        0.13202247
## 237        0.10256071        0.12241117        0.2812148        0.15549527
## 238        0.11356753        0.11811024        0.2861902        0.14839491
## 239        0.10477521        0.13017526        0.2730505        0.16192532
## 240        0.11166786        0.13457409        0.2834646        0.13457409
## 241        0.11976048        0.11976048        0.2694611        0.18562874
## 242        0.12352941        0.12941176        0.2705882        0.18235294
## 243        0.10779221        0.11038961        0.2574675        0.13668831
## 244        0.10737294        0.11930327        0.2714149        0.16105941
## 245        0.10810811        0.12837838        0.2810811        0.14594595
## 246        0.09883721        0.04069767        0.2209302        0.10465116
## 277        0.11911357        0.13434903        0.2603878        0.15512465
## 278        0.11250000        0.12812500        0.2468750        0.17500000
## 279        0.13714286        0.15142857        0.2457143        0.16000000
## 280        0.11388889        0.13888889        0.2472222        0.16944444
## 281        0.10443038        0.12658228        0.2468354        0.15189873
## 282        0.10410959        0.11506849        0.2493151        0.13972603
```

```
## 283        0.11309524        0.12946429        0.2678571        0.14285714
## 284        0.12154696        0.13812155        0.2513812        0.15745856
## 285        0.11290323        0.12419355        0.2387097        0.16129032
## 286        0.12500000        0.13352273        0.2556818        0.15198864
## 297        0.10569106        0.10772358        0.2398374        0.15650407
## 298        0.10592857        0.11428571        0.2642857        0.18807143
## 299        0.12484342        0.12793319        0.2713987        0.16492693
## 300        0.11843239        0.12991674        0.2614844        0.19078381
## 301        0.11372549        0.12941176        0.2725490        0.20000000
## 302        0.10416667        0.10937500        0.2621528        0.18750000
## 303        0.11111111        0.11571429        0.2547619        0.14484127
## 304        0.10566038        0.11724528        0.2558491        0.16981132
## 305        0.10641892        0.11486486        0.2719595        0.20270270
## 306        0.10769231        0.11538462        0.2423077        0.15000000
## 307        0.10260116        0.11560694        0.2485549        0.12716763
## 308        0.10778443        0.11826347        0.2514970        0.13473054
## 309        0.10509554        0.11783439        0.2484076        0.18152866
## 310        0.10759494        0.10443038        0.2500000        0.12658228
## 311        0.11419753        0.12037037        0.2592593        0.14814815
## 312        0.11309524        0.12053571        0.2604167        0.12797619
## 313        0.11920530        0.12417219        0.2682119        0.13907285
## 314        0.11073826        0.13087248        0.2533557        0.13087248
## 315        0.10534591        0.12421384        0.2704403        0.13522013
## 316        0.10956790        0.12037037        0.1450617        0.12654321
## 317        0.10857664        0.12500000        0.2636861        0.18978102
## 318        0.09701493        0.11940299        0.2350746        0.14552239
## 319        0.10000000        0.11250000        0.2428571        0.15714286
## 320        0.10416667        0.11666667        0.2458333        0.13333333
## 321        1.25535714        0.10178571        0.2571429        0.13928571
## 322        0.10784314        0.10000000        0.2392157        0.15294118
## 323        0.10937500        0.11132812        0.2480469        0.12695313
## 324        0.10211268        0.11267606        0.2306338        0.15140845
## 325        0.11067194        0.11067194        0.2569170        0.17391304
## 326        0.10344828        0.11034483        0.2672414        0.18620690
## 327        0.10759494        0.12341772        0.2500000        0.14873418
## 328        0.11337209        0.11918605        0.2427326        0.14534884
## 329        0.11023622        0.11679790        0.2683727        0.19160105
## 330        0.11026352        0.11997226        0.2593620        0.15950069
## 331        0.10601266        0.12341772        0.2563291        0.13607595
## 332        0.09831461        0.11516854        0.2500000        0.14466292
## 333        0.10549133        0.11271676        0.2658960        0.17630058
## 334        0.10707692        0.10953846        0.2646154        0.17538462
## 335        0.10714286        0.11904762        0.2589286        0.18526786
## 337        0.11538462        0.12721893        0.2662722        0.13313609
## 338        0.11392405        0.11708861        0.2594937        0.14556962
## 339        0.12773723        0.11678832        0.2445255        0.14963504
## 340        0.12500000        0.12037037        0.2500000        0.12654321
## 341        0.11875000        0.11875000        0.2468750        0.12812500
## 342        0.11111111        0.12865497        0.2514620        0.11695906
## 343        0.12142857        0.13214286        0.2660714        0.14642857
## 344        0.12500000        0.13636364        0.2694805        0.13149351
## 345        0.11486486        0.11486486        0.2398649        0.12837838
## 346        0.11486486        0.11148649        0.2500000        0.13513514
## 347        0.10416667        0.13888889        0.2690972        0.11979167
```

```
## 348 0.10261194 0.11380597 0.2388060 0.14925373
## 350 0.10698690 0.11426492 0.2350801 0.14774381
## 351 0.11294964 0.12805755 0.2604317 0.16258993
## 352 0.11718750 0.13085938 0.2734375 0.16601562
## 353 0.10394265 0.12186380 0.2526882 0.20071685
## 354 0.10820896 0.12313433 0.2462687 0.11940299
## 355 0.11111111 0.13550136 0.2452575 0.14295393
## 356 0.10661765 0.11764706 0.2500000 0.12867647
## 357 0.10478360 0.11873576 0.2685080 0.17938497
## 358 0.11339031 0.11595442 0.2384615 0.17378917
## 359 0.11392045 0.12500000 0.2534091 0.19318182
## 360 0.10031646 0.11170886 0.2506329 0.17594937
## 361 0.10023585 0.11586085 0.2520637 0.17158019
## 362 0.10729355 0.11995178 0.2643159 0.18083183
## 363 0.10119048 0.11934524 0.2630952 0.17857143
## 364 0.11216617 0.12611276 0.2697329 0.18842730
## 365 0.10752688 0.12150538 0.2720430 0.18682796
## 366 0.11176471 0.12647059 0.2352941 0.12500000
## 367 0.11249260 0.12966252 0.2634695 0.15186501
## 368 0.10883978 0.11933702 0.2629834 0.14751381
## 369 0.10750000 0.12187500 0.2243750 0.16250000
## 370 0.10924855 0.12196532 0.2398844 0.14682081
## 371 0.10490798 0.12453988 0.2546012 0.14815951
## 372 0.09924488 0.10949299 0.2451456 0.13349515
## 373 0.09202454 0.11042945 0.2401840 0.12944785
## 374 0.10778443 0.13173653 0.2425150 0.14670659
## 375 0.12641622 0.13178295 0.2775790 0.12104949
## 376 0.10226595 0.12104949 0.2501491 0.21198569
## 377 0.11111111 0.11904762 0.2698413 0.14682540
## 378 0.10752137 0.10256410 0.2606838 0.15948718
## 379 0.10769231 0.10192308 0.2634615 0.16923077
## 380 0.09782609 0.08695652 0.2427536 0.14492754
## 381 0.11580882 0.12683824 0.2702206 0.21139706
## 382 0.12500000 0.12867647 0.2665441 0.22058824
## 383 0.12500000 0.12857143 0.2660714 0.22857143
## 384 0.10416667 0.11875000 0.2500000 0.14375000
## 385 0.10743802 0.09917355 0.2561983 0.22314050
## 386 0.10984848 0.11742424 0.2727273 0.14393939
## 387 0.11641791 0.13134328 0.2298507 0.22985075
## 388 0.11594203 0.11681159 0.2420290 0.14347826
## 389 0.10821918 0.12328767 0.2356164 0.12465753
## 390 0.10449735 0.11878307 0.2402116 0.16402116
## 391 0.11208791 0.12032967 0.2554945 0.14697802
## 392 0.10914127 0.12742382 0.2451524 0.14404432
## 393 0.10701107 0.13284133 0.2656827 0.13653137
## 394 0.11290323 0.12096774 0.2580645 0.12096774
## 395 0.11885246 0.11270492 0.2663934 0.15983607
## 396 0.10901408 0.10760563 0.2352113 0.14647887
## 397 0.10270270 0.12972973 0.2648649 0.12432432
## 398 0.10372340 0.10904255 0.2473404 0.11702128
## 399 0.11413043 0.12228261 0.2581522 0.13586957
## 400 0.09826590 0.12138728 0.2485549 0.12138728
## 401 0.11797753 0.13483146 0.2528090 0.11516854
## 402 0.10781250 0.13281250 0.2546875 0.13281250
```

```
## 403         0.10840108        0.10840108              NaN         0.15718157
## 404         0.10909091        0.10909091        0.2606061         0.12424242
## 405         0.10526316        0.12188366        0.2548476         0.14127424
## 406         0.10759494        0.12025316        0.2531646         0.12658228
## 407         0.10592186        0.13308913        0.2735043         0.17185592
## 408         0.10352029        0.11873508        0.2494033         0.18108592
## 409         0.10095866        0.10155782        0.2363691         0.14110246
## 410         0.11079900        0.12453184        0.2671660         0.16573034
## 411         0.10190074        0.12249208        0.2381204         0.19297782
## 412         0.09203380        0.11858781        0.2459264         0.17652384
## 413         0.09873950        0.10924370        0.2503001         0.17977191
## 414         0.09417421        0.10718326        0.2500000         0.18269231
## 415         0.97009967        0.11821705        0.2320044         0.17746401
## 416         0.10220674        0.10365854        0.2511614         0.17450639
## 417         0.10771277        0.11755319        0.2380319         0.12101064
## 418         0.11017746        0.11458456        0.2710365         0.15718651
## 419         0.12645218        0.12806570        0.2634568         0.14602427
## 420         0.11293436        0.11486486        0.2625483         0.11776062
## 421         0.11250000        0.12589286        0.2508929         0.14732143
## 422         0.10700000        0.12000000        0.2500000         0.14400000
## 423         0.11428571        0.12976190        0.2476190         0.13333333
## 424         0.11151079        0.12949640        0.2410072         0.16187050
## 425         0.10370370        0.10555556        0.2259259         0.16666667
## 426         0.10742187        0.11523438        0.2382812         0.17382812
##     arm.reach/height foot.length/height floor.kneepit/height floor.hip/height
## 1          1.2373439         0.14234057            0.2465483        0.5769231
## 2          1.2816092         0.13218391            0.2887931        0.5876437
## 3          1.0892857         0.11904762            0.2440476        0.6071429
## 4          1.2317073         0.14024390            0.2378049        0.5365854
## 5          1.2762431         0.13812155            0.2320442        0.5469613
## 6          1.3188220         0.16261204            0.2704866        0.6145967
## 7          0.9727803         0.14225535            0.2495139        0.5800389
## 8          1.2443292         0.14257939            0.2495139        0.5703176
## 9          0.2200347         0.15055009            0.2605675        0.5558772
## 10         1.2262195         0.14207317            0.2347561        0.5365854
## 21         0.3620690         0.15034483            0.2820690        0.6131034
## 22         0.3922652         0.13756906            0.2831492        0.5801105
## 23         0.3768021         0.14908257            0.2749017        0.5907602
## 24         0.3828909         0.13952802            0.2743363        0.6097345
## 25         0.4002426         0.13523347            0.2644027        0.6033960
## 26         0.3906250         0.15625000            0.2958984        0.5999349
## 27         0.3751406         0.14735658            0.2544994        0.5762092
## 28         0.3859180         0.14052288            0.2667855        0.5659537
## 29         0.3821282         0.12786596            0.2695473        0.5961199
## 30         0.3707124         0.14610818            0.2704485        0.6306069
## 31         1.2903226         0.16129032            0.2741935        0.5896057
## 32         1.2122905         0.14245810            0.2891061        0.5726257
## 33         1.1989529         0.15445026            0.2604712        0.5680628
## 34         1.2220280         0.14685315            0.2779720        0.5970280
## 35         1.2539370         0.13779528            0.2696850        0.6023622
## 36         1.2513889         0.16527778            0.2694444        0.5930556
## 37         1.2290389         0.15439673            0.3190184        0.6012270
## 38         1.1457143         0.14952381            0.2657143        0.5733333
## 39         1.2862903         0.14314516            0.2752016        0.5927419
```

```
## 40        1.2517730        0.14539007        0.2792624        0.5966312
## 41        1.2720884        0.15060241        0.2740964        0.6054217
## 75        1.2682584        0.14887640        0.2429775        0.5266854
## 76        0.8397115        0.13986014        0.2514179        0.5452894
## 77        0.8397948        0.13683010        0.2508552        0.5453250
## 78        0.8385093        0.13975155        0.2515528        0.5465839
## 79        0.8393939        0.13939394        0.2515152        0.5454545
## 80        0.8387097        0.13978495        0.2526882        0.5430108
## 81        0.8396739        0.14130435        0.2500000        0.5434783
## 82        0.8553459        0.14465409        0.2578616        0.5566038
## 83        0.8409704        0.14016173        0.2533693        0.5444744
## 84        0.8486486        0.14054054        0.2540541        0.5486486
## 85        1.2281421        0.15300546        0.2540984        0.5792350
## 86        1.2372372        0.13813814        0.2657658        0.6051051
## 87        1.2666667        0.14603175        0.2507937        0.5222222
## 88        1.3644315        0.11661808        0.2507289        0.6064140
## 89        1.2528090        0.15028090        0.2752809        0.5646067
## 90        1.2380952        0.15029762        0.2678571        0.6071429
## 91        1.2411765        0.14117647        0.2470588        0.5529412
## 92        1.2556180        0.14466292        0.2752809        0.5646067
## 93        1.3278689        0.15846995        0.3060109        0.5628415
## 94        0.6885714        0.14285714        0.2914286        0.5285714
## 95        0.4829193        0.08385093        0.2608696        0.5263975
## 96        1.2837838        0.15405405        0.2864865        0.6108108
## 97        1.2500000        0.14311594        0.2608696        0.5362319
## 98              NaN               NaN              NaN              NaN
## 99              NaN               NaN              NaN              NaN
## 100             NaN               NaN              NaN              NaN
## 101             NaN               NaN              NaN              NaN
## 102             NaN               NaN              NaN              NaN
## 103             NaN               NaN              NaN              NaN
## 104             NaN               NaN              NaN              NaN
## 105             NaN               NaN              NaN              NaN
## 106             NaN               NaN              NaN              NaN
## 107       0.4094203        0.13949275        0.2753623        0.5543478
## 108       0.3730769        0.13846154        0.2769231        0.6134615
## 109       0.4107143        0.15535714        0.2785714        0.5517857
## 110             NaN               NaN              NaN              NaN
## 111             NaN               NaN              NaN              NaN
## 112             NaN               NaN              NaN              NaN
## 113             NaN               NaN              NaN              NaN
## 114             NaN               NaN              NaN              NaN
## 115             NaN               NaN              NaN              NaN
## 116             NaN               NaN              NaN              NaN
## 117       1.2702703        0.15540541        0.2432432        0.5540541
## 118       1.2755906        0.14173228        0.2362205        0.5708661
## 119       1.2629310        0.15517241        0.2370690        0.6120690
## 120       1.2888889        0.15111111        0.2622222        0.6311111
## 121       1.2822967        0.15311005        0.2679426        0.5980861
## 122       1.0362903        0.12903226        0.2096774        0.5080645
## 123              NA                NA               NA              NaN
## 124              NA                NA               NA              NaN
## 125       1.2068966        0.14655172        0.2586207        0.5344828
## 126       0.9058172        0.14819945        0.2409972        0.5470914
```

```
## 127       0.3691070       0.13754853       0.2956184             NaN
## 128       0.3760684       0.15506716       0.2735043             NaN
## 129       0.3505269       0.16916251       0.2728785             NaN
## 130       0.3855346       0.15251572       0.2616352             NaN
## 131       0.3698895       0.15607735       0.3016575             NaN
## 132             NaN       0.15789474       0.2631579             NaN
## 133             NaN       0.14128728       0.2501308             NaN
## 134       0.3666667       0.14444444       0.2833333             NaN
## 135       0.3505917       0.14497041       0.2795858             NaN
## 136       0.3609551       0.14325843       0.2485955             NaN
## 227       1.4529617       0.16550523       0.3170732       0.7003484
## 228       1.2118644       0.15536723       0.2768362       0.5734463
## 229       1.2442857       0.14714286       0.2700000       0.5700000
## 230       1.2471429       0.14285714       0.2614286       0.5742857
## 231       1.3234463       0.16949153       0.2796610       0.6200565
## 232       1.2304217       0.16415663       0.2981928       0.6054217
## 233       1.2801724       0.13936782       0.2787356       0.5919540
## 234       1.2568306       0.14617486       0.2718579       0.5218579
## 235       1.1532258       0.15860215       0.2526882       0.5026882
## 236       1.2429775       0.14185393       0.2837079       0.5814607
## 237       1.3182773       0.15549527       0.2779064       0.6186727
## 238       1.2980769       0.16050878       0.2786190       0.6238643
## 239       1.2842742       0.14922530       0.2540005       0.5969012
## 240       1.3181818       0.15175376       0.2806013       0.5898354
## 241       1.2694611       0.15568862       0.2994012       0.6107784
## 242       1.2823529       0.15882353       0.2941176       0.6176471
## 243       1.2685065       0.15162338       0.2623377       0.6243506
## 244       1.3143939       0.21176330       0.4414221       0.6024815
## 245       1.2324324       0.16216216       0.3135135       0.5621622
## 246       1.2034884       0.13372093       0.2790698       0.2034884
## 277       1.2936288       0.15789474       0.2437673       0.5567867
## 278       1.2875000       0.15781250       0.2531250       0.6031250
## 279       1.2842857       0.16000000       0.2542857       0.5957143
## 280       1.2944444       0.15555556       0.2611111       0.5638889
## 281       1.2721519       0.14556962       0.2626582       0.6155063
## 282       1.3123288       0.14246575       0.2657534       0.5917808
## 283       1.2797619       0.14880952       0.2589286       0.5684524
## 284       1.2817680       0.15745856       0.2375691       0.5276243
## 285       1.2774194       0.15806452       0.2516129       0.6096774
## 286       1.3196023       0.15340909       0.2500000       0.5568182
## 297       1.2439024       0.13951220       0.2391057       0.5670732
## 298       1.2687500       0.15228571       0.2815000       0.5755714
## 299       1.2622965       0.14463466       0.2720668       0.5686848
## 300       1.2605871       0.14193942       0.2557063       0.5658197
## 301       1.2549020       0.14901961       0.2666667       0.5803922
## 302       1.2829861       0.14236111       0.2847222       0.5885417
## 303       1.2744444       0.14285714       0.2698413       0.5424603
## 304       1.2360377       0.14460377       0.2550943       0.6112453
## 305       1.2787162       0.14695946       0.2702703       0.5574324
## 306       1.2692308       0.13653846       0.2596154       0.5820000
## 307       1.2514451       0.15028902       0.2760116       0.5549133
## 308       1.2380240       0.14970060       0.2904192       0.5673653
## 309       1.2515924       0.14649682       0.2770701       0.5636943
## 310       1.2151899       0.15189873       0.3037975       0.5664557
```

```
## 311      1.2561728      0.14814815      0.3055556      0.5925926
## 312      1.2738095      0.14880952      0.2797619      0.5565476
## 313      1.2880795      0.15894040      0.3112583      0.6341060
## 314      1.2181208      0.15100671      0.3036913      0.6258389
## 315      1.2327044      0.14150943      0.2987421      0.5849057
## 316      1.2407407      0.14814815      0.3024691      0.6049383
## 317      1.2956204      0.14598540      0.2427007      0.5145985
## 318      1.2835821      0.13805970      0.2518657      0.5671642
## 319      1.2714286      0.15000000      0.2571429      0.5928571
## 320      1.2945000      0.14166667      0.2500000      0.5750000
## 321      1.2428571      0.14107143      0.2375000      0.5839286
## 322      1.2039216      0.14705882      0.2588235      0.4921569
## 323      1.1718750      0.15039062      0.2539063      0.5546875
## 324      1.1478873      0.14260563      0.2570423      0.5669014
## 325      1.2727273      0.15415020      0.3003953      0.6007905
## 326      1.2879310      0.15344828      0.2620690      0.5689655
## 327      1.2626582      0.13765823      0.2262658      0.5854430
## 328      1.2296512      0.14680233      0.2558140      0.5813953
## 329      1.2834646      0.14895013      0.2703412      0.5518373
## 330      1.3002774      0.14840499      0.2905687      0.6047157
## 331      1.2563291      0.14873418      0.2547468      0.5363924
## 332      1.3146067      0.13202247      0.2668539      0.5758427
## 333      0.4855491      0.15317919      0.2630058      0.5823699
## 334      1.2569231      0.13723077      0.2461538      0.5938462
## 335      1.3002976      0.14538690      0.2336310      0.5446429
## 337      1.2130178      0.15384615      0.2692308      0.5739645
## 338      1.2341772      0.14715190      0.2658228      0.5569620
## 339      1.2554745      0.16058394      0.2773723      0.5729927
## 340      1.2129630      0.14660494      0.2716049      0.5308642
## 341      1.1843750      0.14687500      0.2531250      0.5218750
## 342      1.2426901      0.15204678      0.2865497      0.5643275
## 343      1.2821429      0.15000000      0.3071429      0.5642857
## 344      1.2792208      0.16071429      0.2922078      0.5811688
## 345      1.2432432      0.15371622      0.2854730      0.6013514
## 346      1.2263514      0.15540541      0.2668919      0.5912162
## 347      1.2829861      0.15277778      0.2916667      0.5416667
## 348      1.1737313      0.13992537      0.2481343      0.5298507
## 350      1.2518195      0.14919942      0.2536390      0.6048035
## 351      1.2920863      0.15251799      0.2834532      0.6071942
## 352      1.2421875      0.14257812      0.2714844      0.5644531
## 353      1.2670251      0.13261649      0.2903226      0.5645161
## 354      1.2238806      0.14552239      0.2649254      0.5410448
## 355      1.2594851      0.15785908      0.2547425      0.5995935
## 356      1.2500000      0.13419118      0.2720588      0.5716912
## 357      1.2642369      0.15005695      0.2568337      0.5395786
## 358      1.2849003      0.14529915      0.2564103      0.5299145
## 359      1.2897727      0.15085227      0.2730114      0.5340909
## 360      1.2332278      0.13639241      0.2484177      0.5189873
## 361      1.2361439      0.14268868      0.2432193      0.5247642
## 362      1.2115732      0.14587101      0.2531646      0.5069319
## 363      1.2901786      0.14523810      0.2916667      0.5232143
## 364      1.2640950      0.15281899      0.2477745      0.5445104
## 365      1.2768817      0.15188172      0.2553763      0.5174731
## 366      1.2852941      0.15294118      0.2470588      0.5470588
```

```
## 367       1.2368265       0.14387211       0.2726465       0.5728242
## 368       1.2759669       0.14751381       0.2856354       0.5701657
## 369       1.2371875       0.13750000       0.2562500       0.5687500
## 370       1.2254335       0.14450867       0.2563584       0.5693642
## 371       1.2711656       0.14815951       0.2641104       0.5650307
## 372       1.2219525       0.16450917       0.3967098       0.5480043
## 373       1.2297546       0.13588957       0.2815951       0.5610429
## 374       1.2754491       0.15868263       0.2574850       0.5538922
## 375       1.2671437       0.15414431       0.3011330       0.5638044
## 376       1.2653548       0.16398330       0.2725104       0.5605247
## 377       1.2857143       0.16388889       0.2638889       0.5555556
## 378       1.3247863       0.14957265       0.2735043       0.5641026
## 379       1.2846154       0.14615385       0.2967692       0.5538462
## 380       1.2826087       0.14492754       0.2753623       0.5507246
## 381       1.1525735       0.15257353       0.2591912       0.5073529
## 382       1.1636029       0.15441176       0.2591912       0.4779412
## 383       1.1660714       0.15714286       0.2571429       0.4767857
## 384       1.2750000       0.14375000       0.2645833       0.5562500
## 385       0.9917355       0.12809917       0.3016529       0.5867769
## 386       1.2727273       0.15909091       0.2462121       0.5227273
## 387       1.2597015       0.14328358       0.2776119       0.5716418
## 388       1.2652174       0.14637681       0.2971014       0.5869565
## 389       1.2150685       0.14246575       0.2410959       0.5479452
## 390       1.2645503       0.13915344       0.2870370       0.5846561
## 391       1.2623626       0.14313187       0.2788462       0.6208791
## 392       1.2520776       0.14736842       0.2853186       0.5941828
## 393       1.2140221       0.15682657       0.2804428       0.5645756
## 394       1.2379032       0.14516129       0.2822581       0.5645161
## 395       1.2090164       0.13934426       0.2622951       0.5368852
## 396       1.2492958       0.14366197       0.2873239       0.6000000
## 397       1.3189189       0.14594595       0.2486486       0.5567568
## 398       1.2765957       0.13829787       0.2393617       0.5372340
## 399       1.2826087       0.14130435       0.2500000       0.5733696
## 400       1.2485549       0.13872832       0.2601156       0.5722543
## 401       1.2556180       0.15168539       0.2752809       0.5674157
## 402       1.2937500       0.14531250       0.2531250       0.5968750
## 403       1.2791328       0.15176152       0.2547425       0.5189702
## 404       1.2484848       0.14393939       0.2606061       0.6000000
## 405       1.2659280       0.14681440       0.2963989       0.5498615
## 406       1.3291139       0.14556962       0.2721519       0.6075949
## 407       1.2805250       0.13827839       0.2554945       0.5570818
## 408       1.2291169       0.13036993       0.2520883       0.5957637
## 409       1.1884362       0.13271420       0.3118634       0.5515279
## 410       1.2462547       0.24188514       0.1532459       0.6039326
## 411       1.1739704       0.15258712       0.3041183       0.5337909
## 412       1.2305371       0.13126132       0.2471334       0.5950513
## 413       1.2466987       0.14495798       0.2995198       0.5441176
## 414       1.1948529       0.14507919       0.2873303       0.4966063
## 415       1.1962901       0.13981174       0.3009413       0.5354374
## 416       1.2206736       0.14459930       0.2775842       0.5325203
## 417       1.2367021       0.15292553       0.2460106       0.5984043
## 418       1.2835821       0.13074392       0.2680103       0.5450112
## 419       1.2971311       0.15737705       0.2638602       0.6017813
## 420       1.2345560       0.13127413       0.2509653       0.5763536
```

```
## 421        1.2973214         0.15535714            0.2535714        0.6214286
## 422        1.3100000         0.15100000            0.2560000        0.6240000
## 423        1.2571429         0.15833333            0.2714286        0.5904762
## 424        1.2877698         0.14388489            0.2374101        0.5737410
## 425        1.2777778         0.14074074            0.2518519        0.5592593
## 426        1.3085938         0.13281250            0.2421875        0.5859375
##     floor.armpit/height height/head.height head.height/head.height
## 1             0.8119658          6.613043                        1
## 2             0.8089080          7.873303                        1
## 3             0.8273810          9.333333                        1
## 4             0.7743902          7.130435                        1
## 5             0.7955801          6.961538                        1
## 6             0.8405890          6.942222                        1
## 7             0.7906675          6.857778                        1
## 8             0.7971484          6.708696                        1
## 9             0.7817024          8.635000                        1
## 10            0.7743902          7.130435                        1
## 21            0.8034483          7.712766                        1
## 22            0.7947514          7.448560                        1
## 23            0.7788336          8.338798                        1
## 24            0.7522124          8.071429                        1
## 25            0.7640995          8.633508                        1
## 26            0.7975260          6.918919                        1
## 27            0.7958380          8.673171                        1
## 28            0.7843137          7.581081                        1
## 29            0.7651382          7.560000                        1
## 30            0.7908971          7.618090                        1
## 31            0.8279570          7.540541                        1
## 32            0.7821229          6.884615                        1
## 33            0.7434555          6.821429                        1
## 34            0.7963287          7.729730                        1
## 35            0.8129921          7.055556                        1
## 36            0.7861111          7.500000                        1
## 37            0.8077710          8.150000                        1
## 38            0.8323810          7.608696                        1
## 39            0.8145161          7.085714                        1
## 40            0.8138298          7.726027                        1
## 41            0.8373494          7.114286                        1
## 75            0.7584270          8.476190                        1
## 76            0.7485821          8.937500                        1
## 77            0.7482896          8.948980                        1
## 78            0.7453416          8.944444                        1
## 79            0.7454545          8.918919                        1
## 80            0.7473118          8.857143                        1
## 81            0.7500000          8.975610                        1
## 82            0.7672956          8.833333                        1
## 83            0.7493261          8.833333                        1
## 84            0.7513514          8.809524                        1
## 85            0.7486339          7.956522                        1
## 86            0.8123123          8.121951                        1
## 87            0.7714286          6.847826                        1
## 88            0.8104956          7.795455                        1
## 89            0.7275281          7.739130                        1
## 90            0.7619048          8.400000                        1
```

```
## 91          0.7647059          6.296296                 1
## 92          0.7696629          7.416667                 1
## 93          0.7704918          7.320000                 1
## 94          0.7971429          6.481481                 1
## 95          0.7748447          7.666667                 1
## 96          0.7783784          7.708333                 1
## 97          0.7536232          7.263158                 1
## 98                NaN                NA                NA
## 99                NaN                NA                NA
## 100               NaN                NA                NA
## 101               NaN                NA                NA
## 102               NaN                NA                NA
## 103               NaN                NA                NA
## 104               NaN                NA                NA
## 105               NaN                NA                NA
## 106               NaN                NA                NA
## 107         0.7608696          7.459459                 1
## 108         0.7538462          7.647059                 1
## 109         0.7750000          7.179487                 1
## 110               NaN                NA                 1
## 111               NaN                NA                 1
## 112               NaN                NA                 1
## 113               NaN                NA                 1
## 114               NaN                NA                 1
## 115               NaN                NA                 1
## 116               NaN                NA                 1
## 117         0.8108108          8.000000                 1
## 118         0.7998016          7.937500                 1
## 119         0.8017241          6.823529                 1
## 120         0.7866667          6.617647                 1
## 121         0.7990431          6.147059                 1
## 122         0.6612903          7.294118                 1
## 123                NA                NA                 1
## 124                NA                NA                 1
## 125         0.7586207          6.444444                 1
## 126         0.8227147          8.395349                 1
## 127         0.6691625          7.098425                 1
## 128         0.6474359          7.152838                 1
## 129         0.6586245          7.481328                 1
## 130         0.6550314          6.943231                 1
## 131         0.6947514          7.125984                 1
## 132         0.7526316          7.916667                 1
## 133         0.6480900          7.157303                 1
## 134         0.6666667          6.101695                 1
## 135         0.6701183          7.041667                 1
## 136         0.6362360          6.137931                 1
## 227         0.8797909          6.522727                 1
## 228         0.7782486          7.375000                 1
## 229         0.7714286          8.139535                 1
## 230         0.7771429          8.139535                 1
## 231         0.8531073          8.045455                 1
## 232         0.7936747          8.300000                 1
## 233         0.7600575          7.909091                 1
## 234         0.7527322          7.956522                 1
```

```
## 235          0.7473118          4.650000                   1
## 236          0.8103933          7.739130                   1
## 237          0.7642427          7.372195                   1
## 238          0.7631738          7.178261                   1
## 239          0.7842266          7.874000                   1
## 240          0.7644953          7.430851                   1
## 241          0.7784431          7.590909                   1
## 242          0.7823529          7.083333                   1
## 243          0.7961039          7.333333                   1
## 244          0.7933667          6.985000                   1
## 245          0.7945946          7.400000                   1
## 246          0.6162791          7.818182                   1
## 277          0.7894737          6.811321                   1
## 278          0.8406250          8.000000                   1
## 279          0.8114286          7.291667                   1
## 280          0.8055556          7.826087                   1
## 281          0.8069620          6.448980                   1
## 282          0.7890411          7.300000                   1
## 283          0.8080357          6.461538                   1
## 284          0.7845304          7.098039                   1
## 285          0.8129032          7.045455                   1
## 286          0.7840909          7.333333                   1
## 297          0.7899187          7.687500                   1
## 298          0.7642857          7.567568                   1
## 299          0.8134447          7.257576                   1
## 300          0.7707077          8.443636                   1
## 301          0.8078431          8.500000                   1
## 302          0.8437500          8.000000                   1
## 303          0.8065476          7.563025                   1
## 304          0.8026415          8.179012                   1
## 305          0.7787162          9.250000                   1
## 306          0.7923077          7.878788                   1
## 307          0.7456647          7.863636                   1
## 308          0.7574850          9.277778                   1
## 309          0.7611465          8.263158                   1
## 310          0.6993671          6.583333                   1
## 311          0.7808642          7.200000                   1
## 312          0.7738095          6.000000                   1
## 313          0.8013245          7.550000                   1
## 314          0.8187919          5.137931                   1
## 315          0.7672956          6.913043                   1
## 316          0.8117284          7.200000                   1
## 317          0.8667883          6.936709                   1
## 318          0.7686567          9.241379                   1
## 319          0.7428571          7.000000                   1
## 320          0.7666667          6.315789                   1
## 321          0.7964286          8.750000                   1
## 322          0.7137255          8.225806                   1
## 323          0.7656250          7.529412                   1
## 324          0.7605634          8.875000                   1
## 325          0.7272727          8.433333                   1
## 326          0.8155172          8.787879                   1
## 327          0.7784810          7.181818                   1
## 328          0.7877907          7.166667                   1
```

```
## 329          0.8215223          8.561798                  1
## 330          0.8280166          8.383721                  1
## 331          0.8227848          7.707317                  1
## 332          0.8061798          8.090909                  1
## 333          0.7341040          8.650000                  1
## 334          0.8169231          8.004926                  1
## 335          0.7968750          8.400000                  1
## 337          0.7781065          7.681818                  1
## 338          0.7943038          7.348837                  1
## 339          0.7883212          5.956522                  1
## 340          0.7345679          6.750000                  1
## 341          0.7656250          6.956522                  1
## 342          0.7865497          7.434783                  1
## 343          0.7964286          7.000000                  1
## 344          0.7824675          6.553191                  1
## 345          0.7939189          6.166667                  1
## 346          0.7567568          6.434783                  1
## 347          0.7881944          7.783784                  1
## 348          0.7388060          4.466667                  1
## 350          0.7729258          8.587500                  1
## 351          0.8086331          9.266667                  1
## 352          0.7812500          4.923077                  1
## 353          0.8100358          8.454545                  1
## 354          0.7500000          7.444444                  1
## 355          0.8211382          8.434286                  1
## 356          0.7647059          8.000000                  1
## 357          0.8029613          8.361905                  1
## 358          0.8096866          8.775000                  1
## 359          0.8125000          8.585366                  1
## 360          0.7547468          9.028571                  1
## 361          0.7455778          8.233010                  1
## 362          0.7389994          7.900000                  1
## 363          0.6199405          7.304348                  1
## 364          0.7863501          8.023810                  1
## 365          0.7903226          8.651163                  1
## 366          0.7647059          9.189189                  1
## 367          0.7554766          7.855814                  1
## 368          0.7527624          7.938596                  1
## 369          0.7481250          7.272727                  1
## 370          0.7601156          6.920000                  1
## 371          0.7920245          7.409091                  1
## 372          0.7775081          7.629630                  1
## 373          0.8098160          7.761905                  1
## 374          0.7559880          7.260870                  1
## 375          0.7960644          5.409677                  1
## 376          0.7838402          5.590000                  1
## 377          0.8849206          8.400000                  1
## 378          0.7692308          7.800000                  1
## 379          0.7846154          8.965517                  1
## 380          0.7028986          9.857143                  1
## 381          0.7555147          9.379310                  1
## 382          0.7408088          8.000000                  1
## 383          0.7339286          8.235294                  1
## 384          0.8583333          7.741935                  1
```

```
## 385           0.7520661           6.722222                       1
## 386           0.8333333           8.516129                       1
## 387           0.7582090           6.700000                       1
## 388           0.7710145           7.666667                       1
## 389           0.7931507           7.934783                       1
## 390           0.8227513           8.590909                       1
## 391           0.8049451           7.744681                       1
## 392           0.7977839           8.204545                       1
## 393           0.7970480           7.527778                       1
## 394           0.7903226           7.750000                       1
## 395           0.7991803           7.176471                       1
## 396           0.7746479           7.395833                       1
## 397           0.7783784           8.043478                       1
## 398           0.7712766           8.355556                       1
## 399           0.7663043           7.666667                       1
## 400           0.8294798           7.863636                       1
## 401           0.8258427           7.416667                       1
## 402           0.7625000           6.808511                       1
## 403           0.7913279           7.687500                       1
## 404           0.7696970           7.173913                       1
## 405           0.7590028           8.395349                       1
## 406           0.7594937           6.869565                       1
## 407           0.7530525           7.875000                       1
## 408           0.7589499           7.980952                       1
## 409           0.7567406           8.024038                       1
## 410           0.7665418           7.420102                       1
## 411           0.7629356           8.892019                       1
## 412           0.7537719           7.635945                       1
## 413           0.7821128           8.288557                       1
## 414           0.7451923           8.796020                       1
## 415           0.7749169           8.809756                       1
## 416           0.7610337           9.015707                       1
## 417           0.7699468           7.673469                       1
## 418           0.8255964           6.700000                       1
## 419           0.8082484           7.393939                       1
## 420           0.7490347           7.848485                       1
## 421           0.7571429           7.777778                       1
## 422           0.7640000           8.620690                       1
## 423           0.7452381           7.000000                       1
## 424           0.7589928           8.176471                       1
## 425           0.7814815           8.437500                       1
## 426           0.7792969           8.000000                       1
##     head.c/head.height arm.span/head.height floor.navel/head.height
## 1                   NA            6.443478                       NA
## 2                   NA            7.556561                       NA
## 3                   NA            8.722222                       NA
## 4                   NA            6.739130                       NA
## 5                   NA            7.038462                       NA
## 6                   NA            7.444444                       NA
## 7                   NA            6.671111                       NA
## 8                   NA            6.565217                       NA
## 9                   NA            7.700000                       NA
## 10                  NA            6.708696                       NA
## 21            2.941489            7.537234                 4.595745
```

```
## 22          2.407407          7.242798          4.629630
## 23          2.989071          8.721311          4.989071
## 24          2.666667          7.857143          5.019048
## 25          2.994764          7.952880          5.026178
## 26          2.882883          7.256757          4.315315
## 27          2.892683          8.917073          5.073171
## 28          2.639640          7.463964          4.594595
## 29          2.564444          7.493333          4.488889
## 30          2.768844          7.839196          4.723618
## 31          2.405405          7.837838          4.459459
## 32          3.000000          6.634615          3.980769
## 33          2.750000          6.607143          3.946429
## 34          2.540541          7.756757          4.608108
## 35          2.388889          7.027778          4.277778
## 36          3.333333          7.604167          4.270833
## 37          2.916667          8.116667          4.800000
## 38          2.565217          7.637681          4.260870
## 39          2.514286          7.085714          4.228571
## 40          2.506849          7.904110          4.465753
## 41          2.557143          7.228571          4.314286
## 75          2.809524          8.380952          4.690476
## 76          2.854331         10.750000          5.364173
## 77          2.857143         10.765306          5.372449
## 78          2.833333         10.722222          5.361111
## 79          2.864865         10.729730          5.351351
## 80          2.809524         10.666667          5.333333
## 81          2.878049         10.780488          5.365854
## 82          2.888889         10.833333          5.388889
## 83          2.809524         10.619048          5.285714
## 84          2.904762         10.666667          5.285714
## 85          2.521739          7.956522          4.739130
## 86          2.609756          8.000000          4.829268
## 87          2.391304          6.956522          3.913043
## 88          2.409091          2.954545          4.863636
## 89          2.565217          7.434783          4.391304
## 90          2.800000          8.300000          4.950000
## 91          2.074074          6.444444          3.666667
## 92          2.416667          7.520833          4.333333
## 93          0.920000          6.480000          4.320000
## 94          2.074074          2.777778          3.814815
## 95          2.476190          2.928571          4.619048
## 96          2.375000          8.000000          4.541667
## 97          2.442105          7.447368          4.052632
## 98                NA                NA                NA
## 99                NA                NA                NA
## 100               NA                NA                NA
## 101               NA                NA                NA
## 102               NA                NA                NA
## 103               NA                NA                NA
## 104               NA                NA                NA
## 105               NA                NA                NA
## 106               NA                NA                NA
## 107         2.486486          7.702703          4.216216
## 108         2.470588          7.529412          4.261232
```

```
## 109          2.358974          7.589744          3.957198
## 110          2.555556                NA                NA
## 111          2.000000                NA                NA
## 112          2.486486                NA                NA
## 113          2.714286                NA                NA
## 114          2.181818                NA                NA
## 115          2.648649                NA                NA
## 116          1.971154                NA                NA
## 117                NA          8.378378                NA
## 118                NA          7.812500                NA
## 119                NA          6.970588                NA
## 120                NA          6.823529                NA
## 121                NA          6.235294                NA
## 122                NA          6.176471                NA
## 123                NA          8.142857                NA
## 124                NA          7.478261                NA
## 125                NA                NA                NA
## 126          2.790698          8.325581          5.000000
## 127          2.200787          6.598425          5.551181
## 128          2.497817          6.441048          5.379913
## 129          2.477178          6.784232          5.796680
## 130          2.384279          6.213974          5.379913
## 131          2.374016          6.496063          5.948819
## 132          2.416667          7.208333          5.958333
## 133          2.116105          6.573034          5.636704
## 134          2.000000          5.796610          4.745763
## 135          2.416667          6.583333          5.520833
## 136          1.965517          5.793103          4.362069
## 227          2.545455          7.500000          4.704545
## 228          2.375000          7.291667          4.458333
## 229          2.767442          8.139535          4.837209
## 230          2.581395          8.093023          4.813953
## 231          2.636364          8.227273          5.022727
## 232          2.825000          8.000000          5.100000
## 233          2.613636          7.954545          4.636364
## 234          2.500000          7.478261          4.739130
## 235          2.550000          4.525000          2.450000
## 236          2.586957          7.695652          4.543478
## 237          2.609756          7.512195          4.609756
## 238          2.391304          7.675217          4.521739
## 239          2.675000          8.255000          4.625000
## 240          2.595745          7.674043          4.468085
## 241          2.500000          7.772727          4.772727
## 242          2.375000          7.291667          4.416667
## 243          2.676190          7.380952          4.476190
## 244          2.437500          7.408333          4.166667
## 245          2.360000          7.520000          4.320000
## 246          2.636364          7.727273          4.045455
## 277          2.283019          6.849057          3.905660
## 278          2.775000          7.850000                NA
## 279          2.416667          7.500000                NA
## 280          2.543478          8.043478                NA
## 281          2.265306          6.591837          4.000000
## 282          2.240000          7.440000          4.620000
```

```
## 283  2.192308  6.423077  3.788462
## 284  2.392157  7.156863  4.039216
## 285  2.590909  7.000000        NA
## 286  2.437500  7.375000        NA
## 297  2.656250  7.531250  4.375000
## 298  2.432432  8.000000  4.432432
## 299  2.484848  7.151515  4.151515
## 300  2.575758  8.469697  4.860606
## 301  2.800000  8.433333  5.000000
## 302  2.555556  8.166667  4.944444
## 303  2.460984  7.472989  4.141657
## 304  2.469136  8.364198  5.154321
## 305  2.875000  9.406250  5.468750
## 306  2.787879  7.939394  4.818182
## 307  2.477273  7.863636  4.545455
## 308  2.944444  9.277778  5.666667
## 309  2.815789  8.368421  4.947368
## 310  2.208333  6.083333  3.875000
## 311  2.488889  7.244444  4.355556
## 312  1.892857  6.321429  3.464286
## 313  2.800000  8.250000  4.550000
## 314  1.862069  5.103448  3.051724
## 315  2.347826  7.260870  3.913043
## 316  2.577778  7.133333  4.066667
## 317  2.405063  7.240506  4.151899
## 318  3.034483  9.379310  5.517241
## 319  2.250000  7.200000  4.250000
## 320  2.315789  6.315789  3.605263
## 321  2.781250  9.000000  5.281250
## 322  2.806452  8.032258  4.322581
## 323  2.647059  7.470588  4.411765
## 324  2.875000  9.000000  5.375000
## 325  2.933333  8.000000  5.133333
## 326  2.757576  8.909091  5.151515
## 327  2.431818  7.250000  4.159091
## 328  2.333333  7.000000  4.104167
## 329  2.573034  8.674157  5.078652
## 330  2.581395  8.627907  5.162791
## 331  2.780488  8.097561  4.390244
## 332  2.454545  7.909091  4.886364
## 333  1.075000  8.950000  5.200000
## 334  2.748768  8.128079  4.753695
## 335  2.750000  8.250000  4.850000
## 337  2.636364  7.863636  4.590909
## 338  2.651163  7.534884  4.279070
## 339  2.347826  6.043478  3.695652
## 340  2.333333  6.833333  3.875000
## 341  2.347826  6.913043  4.130435
## 342  2.478261  7.456522  4.391304
## 343  2.750000  7.150000  4.150000
## 344  2.425532  6.808511  4.085106
## 345  2.375000  6.166667  3.875000
## 346  2.347826  6.391304  4.000000
## 347  2.432432  8.216216  4.594595
```

```
## 348          1.583333          4.166667          2.466667
## 350          2.725000          8.625000          5.187500
## 351          2.906667          9.693333          5.733333
## 352          1.769231          5.038462          3.000000
## 353          2.636364          8.393939          5.090909
## 354          2.555556          7.500000          4.347222
## 355          2.742857          8.617143          5.177143
## 356          2.617647          8.014706          4.823529
## 357          2.561905          8.390476          5.190476
## 358          2.750000          8.900000          5.350000
## 359          2.731707          8.682927          5.317073
## 360          3.200000          8.725714          5.371429
## 361          2.815534          7.912621          4.854369
## 362          2.666667          7.928571          4.523810
## 363          2.478261          7.478261          4.130435
## 364          2.642857          8.095238          4.928571
## 365          2.767442          8.781395          5.325581
## 366          3.027027          9.513514          5.621622
## 367          2.581395          8.093023          4.674419
## 368          2.456140          8.355263          4.745614
## 369          2.772727          7.159091          4.272727
## 370          2.336000          7.280000          4.160000
## 371          2.500000          7.727273          4.409091
## 372          2.386831          7.473251          4.493827
## 373          2.571429          7.014286          4.838095
## 374          2.413043          7.434783          4.347826
## 375          1.858065          5.448387          3.164516
## 376          1.820000          5.800000          3.556667
## 377          2.933333          8.800000          5.166667
## 378          3.066667          7.910667          4.733333
## 379          2.931034          8.965517          5.517241
## 380          3.185714          9.571429          5.857143
## 381          2.413793          9.413793          5.034483
## 382          2.382353          8.235294          4.147059
## 383          2.235294          8.588235          4.029412
## 384          2.580645          7.870968          4.645161
## 385          2.555556          6.888889          4.222222
## 386          2.709677          9.032258          5.032258
## 387          2.320000          6.320000          4.080000
## 388          2.697778          7.755556          4.533333
## 389          2.717391          7.978261          4.608696
## 390          2.636364          8.445455          5.181818
## 391          2.510638          7.765957          4.851064
## 392          2.863636          8.068182          5.045455
## 393          2.611111          7.388889          4.277778
## 394          2.687500          7.500000          4.562500
## 395          2.647059          7.058824          3.941176
## 396          2.520833          7.562500          4.541667
## 397          2.565217          8.521739                NA
## 398          2.622222          8.311111                NA
## 399          2.437500          7.625000                NA
## 400          2.590909          7.863636                NA
## 401          2.500000          7.625000                NA
## 402          2.340426          7.021277                NA
```

```
## 403           2.333333            7.937500                   NA
## 404           2.434783            7.282609                   NA
## 405           2.720930            8.627907                   NA
## 406           2.434783            7.086957                   NA
## 407           1.307692            8.240385             4.735577
## 408           2.747619            7.895238             4.838095
## 409           2.745192            7.558942             4.822115
## 410           2.644743            7.480315             4.293654
## 411           3.009390            8.220657             5.000000
## 412           2.552995            7.539171             4.599078
## 413           2.945274            8.442786             5.094527
## 414           2.805970            8.721393             5.238806
## 415           2.897561            8.273171             5.141463
## 416           3.005236            9.078534             5.528796
## 417           2.387755            6.387755             4.642857
## 418           2.275000            6.751969             3.956693
## 419           2.636364            7.393939             4.181818
## 420           2.677165            7.696970             4.843713
## 421           2.559055            8.111111             4.844707
## 422           2.742330            8.413793             5.213141
## 423           2.559055            7.000000             4.304462
## 424           2.698008            8.352941             4.979157
## 425           2.731299            8.375000             5.610236
## 426           2.608268            8.125000             4.847441
##     hand.length/head.height hand.width/head.height hand.elbow/head.height
## 1                 0.7369565              0.7891304               1.517391
## 2                 0.8393665              0.8914027               2.061086
## 3                 0.8333333              0.7777778               2.888889
## 4                 0.7391304              0.8260870               1.695652
## 5                 0.7692308              0.9230769               1.653846
## 6                 0.8155556              0.9022222               1.673333
## 7                 0.7577778              0.8355556               1.620000
## 8                 0.7391304              0.8043478               1.565217
## 9                 0.9000000              0.7000000               1.925000
## 10                0.7391304              0.8260870               1.682609
## 21                0.9042553              0.8670213               2.127660
## 22                0.7366255              0.7654321               1.895062
## 23                0.9398907              0.9590164               2.076503
## 24                0.8738095              0.9309524               2.111905
## 25                0.9005236              0.9267016               2.225131
## 26                0.8198198              0.8851351               1.945946
## 27                0.9073171              1.0731707               2.302439
## 28                0.7747748              0.8513514               1.986486
## 29                0.7622222              0.8511111               1.977778
## 30                0.8190955              0.8592965               2.027638
## 31                0.8175676              0.9256757               2.054054
## 32                0.7596154              0.8461538               1.711538
## 33                0.7410714              0.8482143               1.803571
## 34                0.8445946              0.9729730               2.081081
## 35                0.7638889              0.8541667               1.819444
## 36                0.8333333              0.9062500               2.020833
## 37                0.9583333              0.9625000               2.141667
## 38                0.8297101              0.9565217               1.981884
## 39                0.7357143              0.8607143               1.928571
```

```
## 40          0.8767123          0.9178082          2.102740
## 41          0.7785714          0.9214286          1.942857
## 75          0.9166667          1.0357143          2.166667
## 76          0.8750000          1.1250000          2.275000
## 77          0.8698980          1.1275510          2.278061
## 78          0.8888889          1.1111111          2.277778
## 79          0.8648649          1.1351351          2.270270
## 80          0.8571429          1.0952381          2.238095
## 81          0.8780488          1.1219512          2.292683
## 82          0.8888889          1.1111111          2.277778
## 83          0.8571429          1.0952381          2.238095
## 84          0.8571429          1.0952381          2.285714
## 85          0.8478261          0.9239130          1.760870
## 86          0.8780488          0.9268293          1.975610
## 87          0.7826087          0.7826087          1.717391
## 88          0.3636364          0.4545455          1.363636
## 89          0.8695652          0.9891304          1.021739
## 90          0.9750000          1.0500000          2.050000
## 91          0.6574074          0.7592593          1.666667
## 92          0.7708333          0.8958333          1.843750
## 93          0.8400000          0.4000000          1.880000
## 94          0.6111111          0.3981481          1.611111
## 95          0.7619048          0.4761905          1.809524
## 96          0.8750000          0.4583333          1.854167
## 97          0.8078947          0.8710526          1.192105
## 98                 NA                 NA                NaN
## 99                 NA                 NA                NaN
## 100                NA                 NA                NaN
## 101                NA                 NA                NaN
## 102                NA                 NA                NaN
## 103                NA                 NA                NaN
## 104                NA                 NA                NaN
## 105                NA                 NA                NaN
## 106                NA                 NA                NaN
## 107         0.8033624          0.8586933          1.947010
## 108         0.7647059          0.5882353          1.867647
## 109         0.7948718          0.4871795          1.871593
## 110         0.8444444          0.6388889                NaN
## 111         0.5454545          0.5454545                NaN
## 112         0.8108108          0.7297297                NaN
## 113         0.8571429          0.8000000                NaN
## 114         0.7272727          0.5454545                NaN
## 115         0.8378378          0.6486486                NaN
## 116         0.6250000          0.5288462                NaN
## 117         0.8648649          1.0270270          1.918919
## 118         0.8750000          1.0000000          1.875000
## 119         0.7647059          0.8823529          1.735294
## 120         0.7352941          0.7941176          1.588235
## 121         0.6470588          0.7352941          1.470588
## 122         0.6764706          0.7352941          1.411765
## 123         0.8809524          1.0238095          1.928571
## 124         0.8478261          1.0434783          2.152174
## 125         0.6111111          0.6671041          1.555556
## 126         0.8720930          0.9883721          2.093023
```

```
## 127  0.7283465        NaN  1.887795
## 128  0.7772926        NaN  1.886463
## 129  0.7925311        NaN  1.950207
## 130  0.7467249        NaN  1.855895
## 131  0.7755906        NaN  1.925197
## 132  0.8958333        NaN  2.000000
## 133  0.7378277        NaN  1.891386
## 134  0.6355932        NaN  1.771186
## 135  0.7500000        NaN  1.927083
## 136  0.6034483        NaN  1.517241
## 227  0.7727273  0.8636364  1.750000
## 228  0.7916667  0.8645833  1.687500
## 229  0.8953488  0.8953488  1.872093
## 230  0.8837209  0.8720930  1.930233
## 231  0.9204545  1.0909091  2.238636
## 232  0.9375000  0.9750000  2.012500
## 233  0.8636364  0.8863636  1.988636
## 234  0.8260870  0.8804348  1.891304
## 235  0.6125000  0.6625000  1.262500
## 236  0.8695652  0.9239130  1.967391
## 237  0.7560976  0.9024390  2.073171
## 238  0.8152174  0.8478261  2.054348
## 239  0.8250000  1.0250000  2.150000
## 240  0.8297872  1.0000000  2.106383
## 241  0.9090909  0.9090909  2.045455
## 242  0.8750000  0.9166667  1.916667
## 243  0.7904762  0.8095238  1.888095
## 244  0.7500000  0.8333333  1.895833
## 245  0.8000000  0.9500000  2.080000
## 246  0.7727273  0.3181818  1.727273
## 277  0.8113208  0.9150943  1.773585
## 278  0.9000000  1.0250000  1.975000
## 279  1.0000000  1.1041667  1.791667
## 280  0.8913043  1.0869565  1.934783
## 281  0.6734694  0.8163265  1.591837
## 282  0.7600000  0.8400000  1.820000
## 283  0.7307692  0.8365385  1.730769
## 284  0.8627451  0.9803922  1.784314
## 285  0.7954545  0.8750000  1.681818
## 286  0.9166667  0.9791667  1.875000
## 297  0.8125000  0.8281250  1.843750
## 298  0.8016216  0.8648649  2.000000
## 299  0.9060606  0.9284848  1.969697
## 300  1.0000000  1.0969697  2.207879
## 301  0.9666667  1.1000000  2.316667
## 302  0.8333333  0.8750000  2.097222
## 303  0.8403361  0.8751501  1.926771
## 304  0.8641975  0.9589506  2.092593
## 305  0.9843750  1.0625000  2.515625
## 306  0.8484848  0.9090909  1.909091
## 307  0.8068182  0.9090909  1.954545
## 308  1.0000000  1.0972222  2.333333
## 309  0.8684211  0.9736842  2.052632
## 310  0.7083333  0.6875000  1.645833
```

```
## 311      0.8222222  0.8666667  1.866667
## 312      0.6785714  0.7232143  1.562500
## 313      0.9000000  0.9375000  2.025000
## 314      0.5689655  0.6724138  1.301724
## 315      0.7282609  0.8586957  1.869565
## 316      0.7888889  0.8666667  1.044444
## 317      0.7531646  0.8670886  1.829114
## 318      0.8965517  1.1034483  2.172414
## 319      0.7000000  0.7875000  1.700000
## 320      0.6578947  0.7368421  1.552632
## 321     10.9843750  0.8906250  2.250000
## 322      0.8870968  0.8225806  1.967742
## 323      0.8235294  0.8382353  1.867647
## 324      0.9062500  1.0000000  2.046875
## 325      0.9333333  0.9333333  2.166667
## 326      0.9090909  0.9696970  2.348485
## 327      0.7727273  0.8863636  1.795455
## 328      0.8125000  0.8541667  1.739583
## 329      0.9438202  1.0000000  2.297753
## 330      0.9244186  1.0058140  2.174419
## 331      0.8170732  0.9512195  1.975610
## 332      0.7954545  0.9318182  2.022727
## 333      0.9125000  0.9750000  2.300000
## 334      0.8571429  0.8768473  2.118227
## 335      0.9000000  1.0000000  2.175000
## 337      0.8863636  0.9772727  2.045455
## 338      0.8372093  0.8604651  1.906977
## 339      0.7608696  0.6956522  1.456522
## 340      0.8437500  0.8125000  1.687500
## 341      0.8260870  0.8260870  1.717391
## 342      0.8260870  0.9565217  1.869565
## 343      0.8500000  0.9250000  1.862500
## 344      0.8191489  0.8936170  1.765957
## 345      0.7083333  0.7083333  1.479167
## 346      0.7391304  0.7173913  1.608696
## 347      0.8108108  1.0810811  2.094595
## 348      0.4583333  0.5083333  1.066667
## 350      0.9187500  0.9812500  2.018750
## 351      1.0466667  1.1866667  2.413333
## 352      0.5769231  0.6442308  1.346154
## 353      0.8787879  1.0303030  2.136364
## 354      0.8055556  0.9166667  1.833333
## 355      0.9371429  1.1428571  2.068571
## 356      0.8529412  0.9411765  2.000000
## 357      0.8761905  0.9928571  2.245238
## 358      0.9950000  1.0175000  2.092500
## 359      0.9780488  1.0731707  2.175610
## 360      0.9057143  1.0085714  2.262857
## 361      0.8252427  0.9538835  2.075243
## 362      0.8476190  0.9476190  2.088095
## 363      0.7391304  0.8717391  1.921739
## 364      0.9000000  1.0119048  2.164286
## 365      0.9302326  1.0511628  2.353488
## 366      1.0270270  1.1621622  2.162162
```

```
## 367 0.8837209 1.0186047 2.069767
## 368 0.8640351 0.9473684 2.087719
## 369 0.7818182 0.8863636 1.631818
## 370 0.7560000 0.8440000 1.660000
## 371 0.7772727 0.9227273 1.886364
## 372 0.7572016 0.8353909 1.870370
## 373 0.7142857 0.8571429 1.864286
## 374 0.7826087 0.9565217 1.760870
## 375 0.6838710 0.7129032 1.501613
## 376 0.5716667 0.6766667 1.398333
## 377 0.9333333 1.0000000 2.266667
## 378 0.8386667 0.8000000 2.033333
## 379 0.9655172 0.9137931 2.362069
## 380 0.9642857 0.8571429 2.392857
## 381 1.0862069 1.1896552 2.534483
## 382 1.0000000 1.0294118 2.132353
## 383 1.0294118 1.0588235 2.191176
## 384 0.8064516 0.9193548 1.935484
## 385 0.7222222 0.6666667 1.722222
## 386 0.9354839 1.0000000 2.322581
## 387 0.7800000 0.8800000 1.540000
## 388 0.8888889 0.8955556 1.855556
## 389 0.8586957 0.9782609 1.869565
## 390 0.8977273 1.0204545 2.063636
## 391 0.8680851 0.9319149 1.978723
## 392 0.8954545 1.0454545 2.011364
## 393 0.8055556 1.0000000 2.000000
## 394 0.8750000 0.9375000 2.000000
## 395 0.8529412 0.8088235 1.911765
## 396 0.8062500 0.7958333 1.739583
## 397 0.8260870 1.0434783 2.130435
## 398 0.8666667 0.9111111 2.066667
## 399 0.8750000 0.9375000 1.979167
## 400 0.7727273 0.9545455 1.954545
## 401 0.8750000 1.0000000 1.875000
## 402 0.7340426 0.9042553 1.734043
## 403 0.8333333 0.8333333 NaN
## 404 0.7826087 0.7826087 1.869565
## 405 0.8837209 1.0232558 2.139535
## 406 0.7391304 0.8260870 1.739130
## 407 0.8341346 1.0480769 2.153846
## 408 0.8261905 0.9476190 1.990476
## 409 0.8100962 0.8149038 1.896635
## 410 0.8221399 0.9240389 1.982399
## 411 0.9061033 1.0892019 2.117371
## 412 0.7027650 0.9055300 1.877880
## 413 0.8184080 0.9054726 2.074627
## 414 0.8283582 0.9427861 2.199005
## 415 8.5463415 1.0414634 2.043902
## 416 0.9214660 0.9345550 2.264398
## 417 0.8265306 0.9020408 1.826531
## 418 0.7381890 0.7677165 1.815945
## 419 0.9349797 0.9469100 1.947984
## 420 0.8863636 0.9015152 2.060606
```

```
## 421               0.8750000             0.9791667               1.951389
## 422               0.9224138             1.0344828               2.155172
## 423               0.8000000             0.9083333               1.733333
## 424               0.9117647             1.0588235               1.970588
## 425               0.8750000             0.8906250               1.906250
## 426               0.8593750             0.9218750               1.906250
##     elbow.armpit/head.height arm.reach/head.height foot.length/head.height
## 1                  0.9782609              8.182609               0.9413043
## 2                  1.1764706             10.090498               1.0407240
## 3                  1.8333333             10.166667               1.1111111
## 4                  1.2608696              8.782609               1.0000000
## 5                  1.0769231              8.884615               0.9615385
## 6                  1.4000000              9.155556               1.1288889
## 7                  1.1111111              6.671111               0.9755556
## 8                  1.0652174              8.347826               0.9565217
## 9                  1.0000000              1.900000               1.3000000
## 10                 1.2043478              8.743478               1.0130435
## 21                 1.5957447              2.792553               1.1595745
## 22                 2.3456790              2.921811               1.0246914
## 23                 1.1748634              3.142077               1.2431694
## 24                 1.3333333              3.090476               1.1261905
## 25                 1.2172775              3.455497               1.1675393
## 26                 1.3355856              2.702703               1.0810811
## 27                 1.5804878              3.253659               1.2780488
## 28                 1.2612613              2.925676               1.0653153
## 29                 1.0666667              2.888889               0.9666667
## 30                 1.2311558              2.824121               1.1130653
## 31                 1.0540541              9.729730               1.2162162
## 32                 1.0961538              8.346154               0.9807692
## 33                 1.2142857              8.178571               1.0535714
## 34                 1.3513514              9.445946               1.1351351
## 35                 1.3055556              8.847222               0.9722222
## 36                 1.4791667              9.385417               1.2395833
## 37                 1.4958333             10.016667               1.2583333
## 38                 1.4275362              8.717391               1.1376812
## 39                 1.3285714              9.114286               1.0142857
## 40                 1.3424658              9.671233               1.1232877
## 41                 1.3285714              9.050000               1.0714286
## 75                 1.4523810             10.750000               1.2619048
## 76                 1.4517717              7.504921               1.2500000
## 77                 1.4285714              7.515306               1.2244898
## 78                 1.4722222              7.500000               1.2500000
## 79                 1.4324324              7.486486               1.2432432
## 80                 1.4523810              7.428571               1.2380952
## 81                 1.4390244              7.536585               1.2682927
## 82                 1.4722222              7.555556               1.2777778
## 83                 1.4523810              7.428571               1.2380952
## 84                 1.4523810              7.476190               1.2380952
## 85                 1.1086957              9.771739               1.2173913
## 86                 1.2439024             10.048780               1.1219512
## 87                 0.8478261              8.673913               1.0000000
## 88                 1.0454545             10.636364               0.9090909
## 89                 0.6956522              9.695652               1.1630435
## 90                 1.2000000             10.400000               1.2625000
```

```
## 91          0.7777778          7.814815          0.8888889
## 92          1.2083333          9.312500          1.0729167
## 93          2.8400000          9.720000          1.1600000
## 94          1.0740741          4.462963          0.9259259
## 95          1.0952381          3.702381          0.6428571
## 96          1.2500000          9.895833          1.1875000
## 97          1.2631579          9.078947          1.0394737
## 98                NaN               NaN                NaN
## 99                NaN               NaN                NaN
## 100               NaN               NaN                NaN
## 101               NaN               NaN                NaN
## 102               NaN               NaN                NaN
## 103               NaN               NaN                NaN
## 104               NaN               NaN                NaN
## 105               NaN               NaN                NaN
## 106               NaN               NaN                NaN
## 107         2.9189189          3.054054          1.0405405
## 108         1.2500000          2.852941          1.0588235
## 109         1.0384615          2.948718          1.1153846
## 110               NaN               NaN                NaN
## 111               NaN               NaN                NaN
## 112               NaN               NaN                NaN
## 113               NaN               NaN                NaN
## 114               NaN               NaN                NaN
## 115               NaN               NaN                NaN
## 116               NaN               NaN                NaN
## 117         1.4054054         10.162162          1.2432432
## 118         1.3125000         10.125000          1.1250000
## 119         1.0588235          8.617647          1.0588235
## 120         0.7941176          8.529412          1.0000000
## 121         1.0588235          7.882353          0.9411765
## 122         1.0588235          7.558824          0.9411765
## 123               NaN         10.380952          1.3333333
## 124               NaN         10.000000          1.2608696
## 125         0.8888889          7.777778          0.9444444
## 126         1.2093023          7.604651          1.2441860
## 127         1.1377953          2.620079          0.9763780
## 128         1.0414847          2.689956          1.1091703
## 129         1.0933610          2.622407          1.2655602
## 130         1.0000000          2.676856          1.0589520
## 131         1.0000000          2.635827          1.1122047
## 132         1.2083333               NaN          1.2500000
## 133         1.2247191               NaN          1.0112360
## 134         1.1016949          2.237288          0.8813559
## 135         1.0833333          2.468750          1.0208333
## 136         1.0000000          2.215517          0.8793103
## 227         1.2045455          9.477273          1.0795455
## 228         0.9270833          8.937500          1.1458333
## 229         1.1046512         10.127907          1.1976744
## 230         1.1860465         10.151163          1.1627907
## 231         1.2954545         10.647727          1.3636364
## 232         1.6125000         10.212500          1.3625000
## 233         1.0340909         10.125000          1.1022727
## 234         0.9130435         10.000000          1.1630435
```

## 235	0.5000000	5.362500	0.7375000
## 236	1.0217391	9.619565	1.0978261
## 237	1.1463415	9.718598	1.1463415
## 238	1.0652174	9.317935	1.1521739
## 239	1.2750000	10.112375	1.1750000
## 240	1.0000000	9.795213	1.1276596
## 241	1.4090909	9.636364	1.1818182
## 242	1.2916667	9.083333	1.1250000
## 243	1.0023810	9.302381	1.1119048
## 244	1.1250000	9.181042	1.4791667
## 245	1.0800000	9.120000	1.2000000
## 246	0.8181818	9.409091	1.0454545
## 277	1.0566038	8.811321	1.0754717
## 278	1.4000000	10.300000	1.2625000
## 279	1.1666667	9.364583	1.1666667
## 280	1.3260870	10.130435	1.2173913
## 281	0.9795918	8.204082	0.9387755
## 282	1.0200000	9.580000	1.0400000
## 283	0.9230769	8.269231	0.9615385
## 284	1.1176471	9.098039	1.1176471
## 285	1.1363636	9.000000	1.1136364
## 286	1.1145833	9.677083	1.1250000
## 297	1.2031250	9.562500	1.0725000
## 298	1.4232432	9.601351	1.1524324
## 299	1.1969697	9.161212	1.0496970
## 300	1.6109091	10.643939	1.1984848
## 301	1.7000000	10.666667	1.2666667
## 302	1.5000000	10.263889	1.1388889
## 303	1.0954382	9.638655	1.0804322
## 304	1.3888889	10.109568	1.1827160
## 305	1.8750000	11.828125	1.3593750
## 306	1.1818182	10.000000	1.0757576
## 307	1.0000000	9.840909	1.1818182
## 308	1.2500000	11.486111	1.3888889
## 309	1.5000000	10.342105	1.2105263
## 310	0.8333333	8.000000	1.0000000
## 311	1.0666667	9.044444	1.0666667
## 312	0.7678571	7.642857	0.8928571
## 313	1.0500000	9.725000	1.2000000
## 314	0.6724138	6.258621	0.7758621
## 315	0.9347826	8.521739	0.9782609
## 316	0.9111111	8.933333	1.0666667
## 317	1.3164557	8.987342	1.0126582
## 318	1.3448276	11.862069	1.2758621
## 319	1.1000000	8.900000	1.0500000
## 320	0.8421053	8.175789	0.8947368
## 321	1.2187500	10.875000	1.2343750
## 322	1.2580645	9.903226	1.2096774
## 323	0.9558824	8.823529	1.1323529
## 324	1.3437500	10.187500	1.2656250
## 325	1.4666667	10.733333	1.3000000
## 326	1.6363636	11.318182	1.3484848
## 327	1.0681818	9.068182	0.9886364
## 328	1.0416667	8.812500	1.0520833

```
## 329  1.6404494  10.988764  1.2752809
## 330  1.3372093  10.901163  1.2441860
## 331  1.0487805   9.682927  1.1463415
## 332  1.1704545  10.636364  1.0681818
## 333  1.5250000   4.200000  1.3250000
## 334  1.4039409  10.061576  1.0985222
## 335  1.5562500  10.922500  1.2212500
## 337  1.0227273   9.318182  1.1818182
## 338  1.0697674   9.069767  1.0813953
## 339  0.8913043   7.478261  0.9565217
## 340  0.8541667   8.187500  0.9895833
## 341  0.8913043   8.239130  1.0217391
## 342  0.8695652   9.239130  1.1304348
## 343  1.0250000   8.975000  1.0500000
## 344  0.8617021   8.382979  1.0531915
## 345  0.7916667   7.666667  0.9479167
## 346  0.8695652   7.891304  1.0000000
## 347  0.9324324   9.986486  1.1891892
## 348  0.6666667   5.242667  0.6250000
## 350  1.2687500  10.750000  1.2812500
## 351  1.5066667  11.973333  1.4133333
## 352  0.8173077   6.115385  0.7019231
## 353  1.6969697  10.712121  1.1212121
## 354  0.8888889   9.111111  1.0833333
## 355  1.2057143  10.622857  1.3314286
## 356  1.0294118  10.000000  1.0735294
## 357  1.5000000  10.571429  1.2547619
## 358  1.5250000  11.275000  1.2750000
## 359  1.6585366  11.073171  1.2951220
## 360  1.5885714  11.134286  1.2314286
## 361  1.4126214  10.177184  1.1747573
## 362  1.4285714   9.571429  1.1523810
## 363  1.3043478   9.423913  1.0608696
## 364  1.5119048  10.142857  1.2261905
## 365  1.6162791  11.046512  1.3139535
## 366  1.1486486  11.810811  1.4054054
## 367  1.1930233   9.716279  1.1302326
## 368  1.1710526  10.129386  1.1710526
## 369  1.1818182   8.997727  1.0000000
## 370  1.0160000   8.480000  1.0000000
## 371  1.0977273   9.418182  1.0977273
## 372  1.0185185   9.323045  1.2551440
## 373  1.0047619   9.545238  1.0547619
## 374  1.0652174   9.260870  1.1521739
## 375  0.6548387   6.854839  0.8338710
## 376  1.1850000   7.073333  0.9166667
## 377  1.2333333  10.800000  1.3766667
## 378  1.2440000  10.333333  1.1666667
## 379  1.5172414  11.517241  1.3103448
## 380  1.4285714  12.642857  1.4285714
## 381  1.9827586  10.810345  1.4310345
## 382  1.7647059   9.308824  1.2352941
## 383  1.8823529   9.602941  1.2941176
## 384  1.1129032   9.870968  1.1129032
```

```
## 385                1.5000000             6.666667               0.8611111
## 386                1.2258065            10.838710               1.3548387
## 387                1.5400000             8.440000               0.9600000
## 388                1.1000000             9.700000               1.1222222
## 389                0.9891304             9.641304               1.1304348
## 390                1.4090909            10.863636               1.1954545
## 391                1.1382979             9.776596               1.1085106
## 392                1.1818182            10.272727               1.2090909
## 393                1.0277778             9.138889               1.1805556
## 394                0.9375000             9.593750               1.1250000
## 395                1.1470588             8.676471               1.0000000
## 396                1.0833333             9.239583               1.0625000
## 397                1.0000000            10.608696               1.1739130
## 398                0.9777778            10.666667               1.1555556
## 399                1.0416667             9.833333               1.0833333
## 400                0.9545455             9.818182               1.0909091
## 401                0.8541667             9.312500               1.1250000
## 402                0.9042553             8.808511               0.9893617
## 403                1.2083333             9.833333               1.1666667
## 404                0.8913043             8.956522               1.0326087
## 405                1.1860465            10.627907               1.2325581
## 406                0.8695652             9.130435               1.0000000
## 407                1.3533654            10.084135               1.0889423
## 408                1.4452381             9.809524               1.0404762
## 409                1.1322115             9.536058               1.0649038
## 410                1.2297360             9.247337               1.7948124
## 411                1.7159624            10.438967               1.3568075
## 412                1.3479263             9.396313               1.0023041
## 413                1.4900498            10.333333               1.2014925
## 414                1.6069652            10.509950               1.2761194
## 415                1.5634146            10.539024               1.2317073
## 416                1.5732984            11.005236               1.3036649
## 417                0.9285714             9.489796               1.1734694
## 418                1.0531496             8.600000               0.8759843
## 419                1.0796946             9.590909               1.1636364
## 420                0.9242424             9.689394               1.0303030
## 421                1.1458333            10.090278               1.2083333
## 422                1.2413793            11.293103               1.3017241
## 423                0.9333333             8.800000               1.1083333
## 424                1.3235294            10.529412               1.1764706
## 425                1.4062500            10.781250               1.1875000
## 426                1.3906250            10.468750               1.0625000
##     floor.kneepit/head.height floor.hip/head.height floor.armpit/head.height
## 1                    1.630435              3.815217                5.369565
## 2                    2.273756              4.626697                6.368778
## 3                    2.277778              5.666667                7.722222
## 4                    1.695652              3.826087                5.521739
## 5                    1.615385              3.807692                5.538462
## 6                    1.877778              4.266667                5.835556
## 7                    1.711111              3.977778                5.422222
## 8                    1.673913              3.826087                5.347826
## 9                    2.250000              4.800000                6.750000
## 10                   1.673913              3.826087                5.521739
## 21                   2.175532              4.728723                6.196809
```

```
## 22          2.109053          4.320988          5.919753
## 23          2.292350          4.926230          6.494536
## 24          2.214286          4.921429          6.071429
## 25          2.282723          5.209424          6.596859
## 26          2.047297          4.150901          5.518018
## 27          2.207317          4.997561          6.902439
## 28          2.022523          4.290541          5.945946
## 29          2.037778          4.506667          5.784444
## 30          2.060302          4.804020          6.025126
## 31          2.067568          4.445946          6.243243
## 32          1.990385          3.942308          5.384615
## 33          1.776786          3.875000          5.071429
## 34          2.148649          4.614865          6.155405
## 35          1.902778          4.250000          5.736111
## 36          2.020833          4.447917          5.895833
## 37          2.600000          4.900000          6.583333
## 38          2.021739          4.362319          6.333333
## 39          1.950000          4.200000          5.771429
## 40          2.157589          4.609589          6.287671
## 41          1.950000          4.307143          5.957143
## 75          2.059524          4.464286          6.428571
## 76          2.247047          4.873524          6.690453
## 77          2.244898          4.880102          6.696429
## 78          2.250000          4.888889          6.666667
## 79          2.243243          4.864865          6.648649
## 80          2.238095          4.809524          6.619048
## 81          2.243902          4.878049          6.731707
## 82          2.277778          4.916667          6.777778
## 83          2.238095          4.809524          6.619048
## 84          2.238095          4.833333          6.619048
## 85          2.021739          4.608696          5.956522
## 86          2.158537          4.914634          6.597561
## 87          1.717391          3.576087          5.282609
## 88          1.954545          4.727273          6.318182
## 89          2.130435          4.369565          5.630435
## 90          2.250000          5.100000          6.400000
## 91          1.555556          3.481481          4.814815
## 92          2.041667          4.187500          5.708333
## 93          2.240000          4.120000          5.640000
## 94          1.888889          3.425926          5.166667
## 95          2.000000          4.035714          5.940476
## 96          2.208333          4.708333          6.000000
## 97          1.894737          3.894737          5.473684
## 98               NaN               NaN               NaN
## 99               NaN               NaN               NaN
## 100              NaN               NaN               NaN
## 101              NaN               NaN               NaN
## 102              NaN               NaN               NaN
## 103              NaN               NaN               NaN
## 104              NaN               NaN               NaN
## 105              NaN               NaN               NaN
## 106              NaN               NaN               NaN
## 107         2.054054          4.135135          5.675676
## 108         2.117647          4.691176          5.764706
```

```
## 109    2.000000    3.961538    5.564103
## 110         NaN         NaN         NaN
## 111         NaN         NaN         NaN
## 112         NaN         NaN         NaN
## 113         NaN         NaN         NaN
## 114         NaN         NaN         NaN
## 115         NaN         NaN         NaN
## 116         NaN         NaN         NaN
## 117    1.945946    4.432432    6.486486
## 118    1.875000    4.531250    6.348425
## 119    1.617647    4.176471    5.470588
## 120    1.735294    4.176471    5.205882
## 121    1.647059    3.676471    4.911765
## 122    1.529412    3.705882    4.823529
## 123    2.380952         NaN    6.428571
## 124    2.347826         NaN    6.217391
## 125    1.666667    3.444444    4.888889
## 126    2.023256    4.593023    6.906977
## 127    2.098425         NaN    4.750000
## 128    1.956332         NaN    4.631004
## 129    2.041494         NaN    4.927386
## 130    1.816594         NaN    4.548035
## 131    2.149606         NaN    4.950787
## 132    2.083333         NaN    5.958333
## 133    1.790262         NaN    4.638577
## 134    1.728814         NaN    4.067797
## 135    1.968750         NaN    4.718750
## 136    1.525862         NaN    3.905172
## 227    2.068182    4.568182    5.738636
## 228    2.041667    4.229167    5.739583
## 229    2.197674    4.639535    6.279070
## 230    2.127907    4.674419    6.325581
## 231    2.250000    4.988636    6.863636
## 232    2.475000    5.025000    6.587500
## 233    2.204545    4.681818    6.011364
## 234    2.163043    4.152174    5.989130
## 235    1.175000    2.337500    3.475000
## 236    2.195652    4.500000    6.271739
## 237    2.048780    4.560976    5.634146
## 238    2.000000    4.478261    5.478261
## 239    2.000000    4.700000    6.175000
## 240    2.085106    4.382979    5.680851
## 241    2.272727    4.636364    5.909091
## 242    2.083333    4.375000    5.541667
## 243    1.923810    4.578571    5.838095
## 244    3.083333    4.208333    5.541667
## 245    2.320000    4.160000    5.880000
## 246    2.181818    1.590909    4.818182
## 277    1.660377    3.792453    5.377358
## 278    2.025000    4.825000    6.725000
## 279    1.854167    4.343750    5.916667
## 280    2.043478    4.413043    6.304348
## 281    1.693878    3.969388    5.204082
## 282    1.940000    4.320000    5.760000
```

```
## 283 1.673077 3.673077 5.221154
## 284 1.686275 3.745098 5.568627
## 285 1.772727 4.295455 5.727273
## 286 1.833333 4.083333 5.750000
## 297 1.838125 4.359375 6.072500
## 298 2.130270 4.355676 5.783784
## 299 1.974545 4.127273 5.903636
## 300 2.159091 4.777576 6.507576
## 301 2.266667 4.933333 6.866667
## 302 2.277778 4.708333 6.750000
## 303 2.040816 4.102641 6.099940
## 304 2.086420 4.999383 6.564815
## 305 2.500000 5.156250 7.203125
## 306 2.045455 4.585455 6.242424
## 307 2.170455 4.363636 5.863636
## 308 2.694444 5.263889 7.027778
## 309 2.289474 4.657895 6.289474
## 310 2.000000 3.729167 4.604167
## 311 2.200000 4.266667 5.622222
## 312 1.678571 3.339286 4.642857
## 313 2.350000 4.787500 6.050000
## 314 1.560345 3.215517 4.206897
## 315 2.065217 4.043478 5.304348
## 316 2.177778 4.355556 5.844444
## 317 1.683544 3.569620 6.012658
## 318 2.327586 5.241379 7.103448
## 319 1.800000 4.150000 5.200000
## 320 1.578947 3.631579 4.842105
## 321 2.078125 5.109375 6.968750
## 322 2.129032 4.048387 5.870968
## 323 1.911765 4.176471 5.764706
## 324 2.281250 5.031250 6.750000
## 325 2.533333 5.066667 6.133333
## 326 2.303030 5.000000 7.166667
## 327 1.625000 4.204545 5.590909
## 328 1.833333 4.166667 5.645833
## 329 2.314607 4.724719 7.033708
## 330 2.436047 5.069767 6.941860
## 331 1.963415 4.134146 6.341463
## 332 2.159091 4.659091 6.522727
## 333 2.275000 5.037500 6.350000
## 334 1.970443 4.753695 6.539409
## 335 1.962500 4.575000 6.693750
## 337 2.068182 4.409091 5.977273
## 338 1.953488 4.093023 5.837209
## 339 1.652174 3.413043 4.695652
## 340 1.833333 3.583333 4.958333
## 341 1.760870 3.630435 5.326087
## 342 2.130435 4.195652 5.847826
## 343 2.150000 3.950000 5.575000
## 344 1.914894 3.808511 5.127660
## 345 1.760417 3.708333 4.895833
## 346 1.717391 3.804348 4.869565
## 347 2.270270 4.216216 6.135135
```

```
## 348 1.108333 2.366667 3.300000
## 350 2.178125 5.193750 6.637500
## 351 2.626667 5.626667 7.493333
## 352 1.336538 2.778846 3.846154
## 353 2.454545 4.772727 6.848485
## 354 1.972222 4.027778 5.583333
## 355 2.148571 5.057143 6.925714
## 356 2.176471 4.573529 6.117647
## 357 2.147619 4.511905 6.714286
## 358 2.250000 4.650000 7.105000
## 359 2.343902 4.585366 6.975610
## 360 2.242857 4.685714 6.814286
## 361 2.002427 4.320388 6.138350
## 362 2.000000 4.004762 5.838095
## 363 2.130435 3.821739 4.528261
## 364 1.988095 4.369048 6.309524
## 365 2.209302 4.476744 6.837209
## 366 2.270270 5.027027 7.027027
## 367 2.141860 4.500000 5.934884
## 368 2.267544 4.526316 5.975877
## 369 1.863636 4.136364 5.440909
## 370 1.774000 3.940000 5.260000
## 371 1.956818 4.186364 5.868182
## 372 3.026749 4.181070 5.932099
## 373 2.185714 4.354762 6.285714
## 374 1.869565 4.021739 5.489130
## 375 1.629032 3.050000 4.306452
## 376 1.523333 3.133333 4.381667
## 377 2.216667 4.666667 7.433333
## 378 2.133333 4.400000 6.000000
## 379 2.660690 4.965517 7.034483
## 380 2.714286 5.428571 6.928571
## 381 2.431034 4.758621 7.086207
## 382 2.073529 3.823529 5.926471
## 383 2.117647 3.926471 6.044118
## 384 2.048387 4.306452 6.645161
## 385 2.027778 3.944444 5.055556
## 386 2.096774 4.451613 7.096774
## 387 1.860000 3.830000 5.080000
## 388 2.277778 4.500000 5.911111
## 389 1.913043 4.347826 6.293478
## 390 2.465909 5.022727 7.068182
## 391 2.159574 4.808511 6.234043
## 392 2.340909 4.875000 6.545455
## 393 2.111111 4.250000 6.000000
## 394 2.187500 4.375000 6.125000
## 395 1.882353 3.852941 5.735294
## 396 2.125000 4.437500 5.729167
## 397 2.000000 4.478261 6.260870
## 398 2.000000 4.488889 6.444444
## 399 1.916667 4.395833 5.875000
## 400 2.045455 4.500000 6.522727
## 401 2.041667 4.208333 6.125000
## 402 1.723404 4.063830 5.191489
```

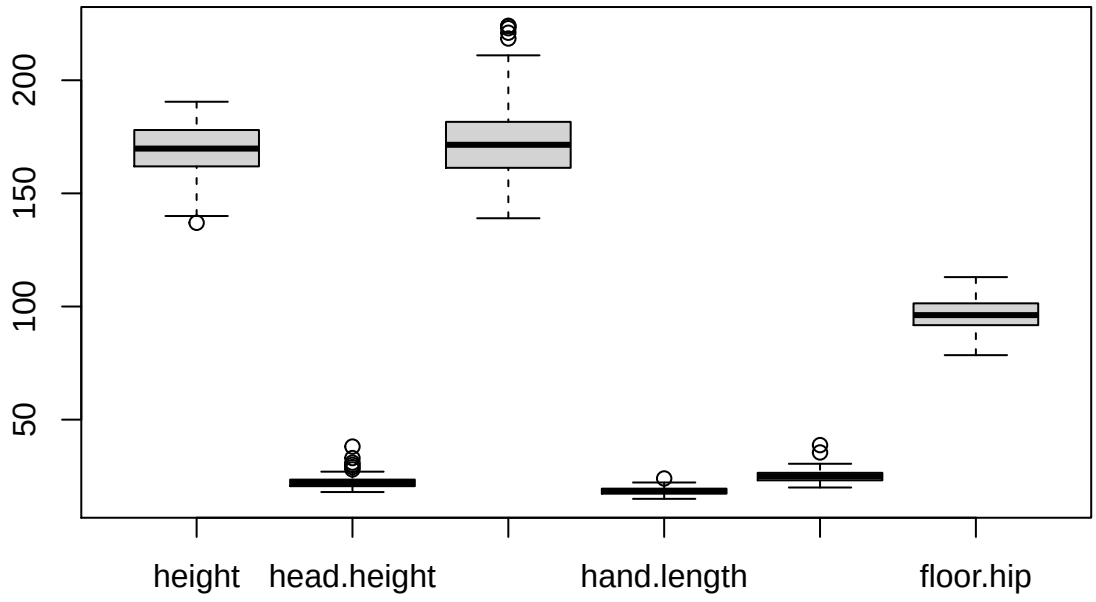
```
## 403                 1.958333             3.989583                6.083333
## 404                 1.869565             4.304348                5.521739
## 405                 2.488372             4.616279                6.372093
## 406                 1.869565             4.173913                5.217391
## 407                 2.012019             4.387019                5.930288
## 408                 2.011905             4.754762                6.057143
## 409                 2.502404             4.425481                6.072115
## 410                 1.137101             4.481241                5.687818
## 411                 2.704225             4.746479                6.784038
## 412                 1.887097             4.543779                5.755760
## 413                 2.482587             4.509950                6.482587
## 414                 2.527363             4.368159                6.554726
## 415                 2.651220             4.717073                6.826829
## 416                 2.502618             4.801047                6.861257
## 417                 1.887755             4.591837                5.908163
## 418                 1.795669             3.651575                5.531496
## 419                 1.950966             4.449535                5.976139
## 420                 1.969697             4.523503                5.878788
## 421                 1.972222             4.833333                5.888889
## 422                 2.206897             5.379310                6.586207
## 423                 1.900000             4.133333                5.216667
## 424                 1.941176             4.691176                6.205882
## 425                 2.125000             4.718750                6.593750
## 426                 1.937500             4.687500                6.234375
```

```
# height, head.height, arm.span, floor.hip, foot.length, hand.length
sample.data <- v2.df[,c(1:4, 6 ,13,20,25,27 ,29:31, 36,37,39,41, 46,48)]
# age over 18
sample.data <- sample.data[sample.data$age >=18,]
summary(sample.data)
```

```
##  data_collector      person_id             height       head.height
##  Length:223         Length:223         Min.   :137.0   Min.   :18.00
##  Class :character   Class :character   1st Qu.:161.9   1st Qu.:20.95
##  Mode  :character   Mode  :character   Median :170.0   Median :22.21
##                                        Mean   :169.9   Mean   :22.50
##                                        3rd Qu.:178.0   3rd Qu.:23.50
##                                        Max.   :191.1   Max.   :38.10
##                                        NA's   :9       NA's   :7
##     arm.span          age         hand.length      foot.length
##  Min.   : 61.5   Min.   :18.00   Min.   :  8.00   Min.   :13.50
##  1st Qu.:160.9   1st Qu.:23.00   1st Qu.: 17.20   1st Qu.:23.25
##  Median :170.2   Median :29.00   Median : 18.40   Median :25.00
##  Mean   :170.1   Mean   :37.56   Mean   : 19.95   Mean   :25.04
##  3rd Qu.:180.7   3rd Qu.:52.00   3rd Qu.: 19.50   3rd Qu.:26.50
##  Max.   :224.0   Max.   :94.00   Max.   :223.20   Max.   :38.75
##  NA's   :8                                        NA's   :14
##    floor.hip       my.ethnicity my.gender  new.units         height/height
##  Min.   : 35.00   w      :164   f:105     Length:223         Min.   :1
##  1st Qu.: 91.75   a      : 37   m:117     Class :character   1st Qu.:1
##  Median : 96.15   h      :  5   o:  1     Mode  :character   Median :1
##  Mean   : 96.16   b      :  3                               Mean   :1
##  3rd Qu.:101.40   ca     :  3                               3rd Qu.:1
##  Max.   :113.00   pi     :  3                               Max.   :1
```

```
##  NA's   :26       (Other):  8                                NA's   :9
##  head.height/height arm.span/height  hand.length/height foot.length/height
##  Min.   :0.1071     Min.   :0.3790   Min.   :0.04665    Min.   :0.08385
##  1st Qu.:0.1214     1st Qu.:0.9841   1st Qu.:0.10393    1st Qu.:0.14130
##  Median :0.1301     Median :1.0070   Median :0.10778    Median :0.14611
##  Mean   :0.1323     Mean   :1.0007   Mean   :0.11739    Mean   :0.14713
##  3rd Qu.:0.1398     3rd Qu.:1.0286   3rd Qu.:0.11250    3rd Qu.:0.15240
##  Max.   :0.2239     Max.   :1.2264   Max.   :1.25536    Max.   :0.24188
##  NA's   :16         NA's   :10       NA's   :9          NA's   :16
##  floor.hip/height
##  Min.   :0.2035
##  1st Qu.:0.5471
##  Median :0.5674
##  Mean   :0.5676
##  3rd Qu.:0.5938
##  Max.   :0.7003
##  NA's   :26
```

```r
# getting rid of outliers.
sample.data <- sample.data[sample.data$arm.span>100&sample.data$hand.length<50&sample.data$floor.hip>50
boxplot(sample.data[,c(3:5,7:9)])$out
```




```
##  [1] 137.00  28.00  29.00  38.10  33.02  31.00  30.00 218.44 224.00 221.00
## [11] 223.00 224.00  24.00  35.50  38.75
```

```r
sample.data <- sample.data[-which(is.na(sample.data$data_collector)), ]
sample.data
```

```
##                        data_collector                         person_id
## 1   9c2633aaa2d945bb10608ad13c3a11a9   1cef05bce7879e0ffee01b0cb8d78c32
## 2   9c2633aaa2d945bb10608ad13c3a11a9   7ccb01feee114272ab008022a14ededb
## 3   9c2633aaa2d945bb10608ad13c3a11a9   045e02304948042a658b4faa4bd8e54e
## 4   9c2633aaa2d945bb10608ad13c3a11a9   51e383ff163861b0e2fc71e939a5b118
## 5   9c2633aaa2d945bb10608ad13c3a11a9   6d672001f80f375570c44439c540bebf
## 6   9c2633aaa2d945bb10608ad13c3a11a9   98569fbc2cb9141f60d0ae5cfa7501cb
## 7   9c2633aaa2d945bb10608ad13c3a11a9   8d98590f4401d70a1d0a04293499b87c
## 8   9c2633aaa2d945bb10608ad13c3a11a9   a9b12538812f18facbfcbd5f2c12663b
## 9   9c2633aaa2d945bb10608ad13c3a11a9   7a87fa2f3e4e4ca864a254fef98ecdc0
## 10  9c2633aaa2d945bb10608ad13c3a11a9   8e231231fb1ab2d42c266670295eee16
## 21  6734f5f4f223d589dc4ff361a310c155   13e647076a48ced264cd8452175c2e15
## 22  6734f5f4f223d589dc4ff361a310c155   1088af35708a5b36f1d4e2bb37acdcb7
## 23  6734f5f4f223d589dc4ff361a310c155   e28999163456cff48b783a89fad8c6d9
## 24  6734f5f4f223d589dc4ff361a310c155   09933344d53a61bf9ad3fbe844e173c8
## 25  6734f5f4f223d589dc4ff361a310c155   8643d013d64405966b262a0280c0b197
## 26  6734f5f4f223d589dc4ff361a310c155   c0e88abe6a0ab110f0f201685c0bd185
## 27  6734f5f4f223d589dc4ff361a310c155   5b31d7eefd327c5296826021dd9a4c56
## 28  6734f5f4f223d589dc4ff361a310c155   bc679a3aec3b015b11b5c33673d58a31
## 29  6734f5f4f223d589dc4ff361a310c155   5ae2cd142c4d754f9cf52879c9df4fc0
## 30  6734f5f4f223d589dc4ff361a310c155   112c745f06b882dc111506a76e90a206
## 31  fd36e2b3ec59dbd996587454cbb59725   789951a2bbfbf299b0822cc8452f236f
## 34  fd36e2b3ec59dbd996587454cbb59725   9f719255d46dd8b9b07935d891dc5295
## 35  fd36e2b3ec59dbd996587454cbb59725   06101d4bde60d0ea415206d4ba04572c
## 38  fd36e2b3ec59dbd996587454cbb59725   ac11025453a44a174b69354845b985d5
## 39  fd36e2b3ec59dbd996587454cbb59725   21a0357f2ca81fcfc9e5502e6ba4c5de
## 40  fd36e2b3ec59dbd996587454cbb59725   08982a644b08fcabe920861dcf638039
## 41  fd36e2b3ec59dbd996587454cbb59725   7aa407c589c49ea3aa49224367f9aad8
## 75  c51267de031fb6d879a8abf25d260269   1c2408654ef5a2fe1fc962088312266c
## 76  c51267de031fb6d879a8abf25d260269   9b2cfcfa9664443aaa0a5cf1333c7244
## 77  c51267de031fb6d879a8abf25d260269   c45839f19cbf1437468598076cb11a1c
## 78  c51267de031fb6d879a8abf25d260269   5416d60fcbda9d702ccbcee046a3e7cb
## 79  c51267de031fb6d879a8abf25d260269   2420e28d6dd40f144e4484b856092628
## 80  c51267de031fb6d879a8abf25d260269   b4216eec77f3aaf926d1b6a1e1512c8e
## 81  c51267de031fb6d879a8abf25d260269   516c55f4541512c4672db44137aae2c8
## 82  c51267de031fb6d879a8abf25d260269   7b85f0f72fa8b6276a307492ba804025
## 83  c51267de031fb6d879a8abf25d260269   2bb88f446d3a78151df3ae67ad006e10
## 84  c51267de031fb6d879a8abf25d260269   5a4bb89464c07cc514e9f08ac6190e71
## 85  5a2f371a934f22dffcf1e994cb6eca40   3edc9028bcaab791b8790713cf82d280
## 86  5a2f371a934f22dffcf1e994cb6eca40   04b2eeaf9dcd75f5fcaeec08f76603f2
## 87  5a2f371a934f22dffcf1e994cb6eca40   c775bb281e5479508ec125fa644ff065
## 89  5a2f371a934f22dffcf1e994cb6eca40   c7e8ec1734c9626546d613ca12f9dc57
## 90  5a2f371a934f22dffcf1e994cb6eca40   cff864eff9ec76edf5a6606be92b33b5
## 91  5a2f371a934f22dffcf1e994cb6eca40   19e7e29d12d3eec6776a993acdfca999
## 92  5a2f371a934f22dffcf1e994cb6eca40   35d830aeb7087089a94bd6f4c2119268
## 93  5a2f371a934f22dffcf1e994cb6eca40   df2f92f65e0119382722048c0fe1aaa9
## 96  5a2f371a934f22dffcf1e994cb6eca40   a7ca986d375e45fe72aa5b043c0d207e
## 97  253a0d24ddff7cbe1b9f621870d9d198   ac56ebdc4dda8269a4a2b52a1d6c7850
## 107 feaa341d33cedb0f4f7ec731c84e5ba9   be2c146782bc42ee8a28929e2caae9ba
## 108 feaa341d33cedb0f4f7ec731c84e5ba9   852e3c313e43b1ae48f3d6bb0a6469d3
## 109 feaa341d33cedb0f4f7ec731c84e5ba9   150f21419f5bb180fd931e2fa8640a70
```

```
## 117 4258362c2bb0d1f95b05ba2bb2e71be9   cee86ca062c513efc86eb507151fbc09
## 118 4258362c2bb0d1f95b05ba2bb2e71be9   4733a44073c81970cccbca6e1ede188b
## 126 4258362c2bb0d1f95b05ba2bb2e71be9   5052688170956343ecf8371c9921c6be
## 227 5a96f81207a7a619ea2574c7e86cda93   cdfdf4d1cb331c85c789c7401a88d6b3
## 228 5a96f81207a7a619ea2574c7e86cda93   9bca8c56351df29d833cbf3ebcb180a1
## 232 5a96f81207a7a619ea2574c7e86cda93   df09e9a8368e050f75a6f2aa89c2c54c
## 233 5a96f81207a7a619ea2574c7e86cda93   d35f30a55820eb88b89350618eb3a171
## 234 5a96f81207a7a619ea2574c7e86cda93   0a02f10d313ea98a111c9e8323ed385e
## 236 5a96f81207a7a619ea2574c7e86cda93   3409c695fd39d4511ed3dd3d9fa3436f
## 239 a7380c7fdd4f9c977a007c003e42deb8   bd1d7b0809e4b4ee9ca307aa5308ea6f
## 240 a7380c7fdd4f9c977a007c003e42deb8   df3939f11965e7e75dbc046cd9af1c67
## 241 a7380c7fdd4f9c977a007c003e42deb8   dee1225ded7171820b3b974f86164a65
## 242 a7380c7fdd4f9c977a007c003e42deb8   aad627aedbaec238fd7f74e3aa3385e5
## 243 a7380c7fdd4f9c977a007c003e42deb8   571163a3f76efb73cd125ef35b44ea4d
## 244 a7380c7fdd4f9c977a007c003e42deb8   3a444f015555e4667dec80fd853a5033
## 245 a7380c7fdd4f9c977a007c003e42deb8   3ce80889b3746a483269fb4554f69517
## 277 00b0bc50a5d4c23ebdac6e69cebf284d   cb216e6502316d1466d79b4a18b540cf
## 278 07455b8d275697db40dab95a03f3c208   be6fbe0a469c8ba8b4f2c44e0fe6304d
## 279 21130e0e97a7ce7afdd817c223e9ac64   ca9ff114ef0294d44570b2f047017c45
## 280 07455b8d275697db40dab95a03f3c208   d461230a8b9f2893ad1ec16580afbeb2
## 281 00b0bc50a5d4c23ebdac6e69cebf284d   47216f67cbc4c6ce2dc9d6e41550496d
## 282 00b0bc50a5d4c23ebdac6e69cebf284d   b7d7985212d1c5dad1b63a7d529ce904
## 283 dc4c5f00782773504555c80d9c6dd20f   9a151897ab3979d9320496fa60f3dd09
## 284 cc97268e16b656d42336d456432e1925   c7d12fe45546c973922880529fa8edae
## 285 391737a84a55fb3fc6b1f3e5789cd077   f7c4fadae08200bc74b0fe5368741290
## 297 58056c4dc037cb0dbba1ad30215034da   2cb006f5af92908e10f658a662e1d5dc
## 298 58056c4dc037cb0dbba1ad30215034da   5b6caf13d5494dbcf97f7cbc08fb4474
## 299 58056c4dc037cb0dbba1ad30215034da   25e38df28480f96f016e14a314fe3c78
## 300 58056c4dc037cb0dbba1ad30215034da   c2a09d55305b52aad95a25a11f4a6e9f
## 301 58056c4dc037cb0dbba1ad30215034da   739d1aeb9df6ab5010aa49d84ffee8ed
## 302 58056c4dc037cb0dbba1ad30215034da   dcb3e11bbe723cfa77314f8e5fd010c7
## 303 58056c4dc037cb0dbba1ad30215034da   b08ccacdf72360c9419bed8e73f81fab
## 304 58056c4dc037cb0dbba1ad30215034da   d4ec69b42a38a9e3bb885e045e50861a
## 305 28c6a87502875ef92990719df72796de   eb85e0caa487a9fd16fac6b15715dcf8
## 306 58056c4dc037cb0dbba1ad30215034da   ee9817b969dbd601e367e777a5de7962
## 307 e7f9de8678dd03888650774035567b45c   967282cd5d3edbae550d1c4ab643f5ce
## 308 e7f9de8678dd03888650774035567b45c   8e244595a666e4311a81757ca88371b8
## 309 e7f9de8678dd03888650774035567b45c   7902ed1386067dae936e6639ba7f85a4
## 310 e7f9de8678dd03888650774035567b45c   6ea4dc5cd6a84ef12b677bbaabc9fc6f
## 311 e7f9de8678dd03888650774035567b45c   4eec8ecba9d91f00de594fa5267d1c98
## 312 e7f9de8678dd03888650774035567b45c   49f34c755408a89228f78967771c175f
## 313 e7f9de8678dd03888650774035567b45c   aacdcaab42f85782dbafce7a5d26b4b1
## 314 e7f9de8678dd03888650774035567b45c   f1b5a149b72512dffa7774d6a793b41b
## 315 e7f9de8678dd03888650774035567b45c   15f97b6406102d4ccf285b8063f39f84
## 316 e7f9de8678dd03888650774035567b45c   0657038008ee10df1a7dc9e8b25e59a0
## 317 b7c953cb6c1f80156d72b012e64c2f5b   830b198e4dbea57bc18d39e4174bd4a4
## 318 b7c953cb6c1f80156d72b012e64c2f5b   839d0778a7469b85de24947ff78d9c15
## 319 b7c953cb6c1f80156d72b012e64c2f5b   d001d856ebdf0decd03d46283237d5d4
## 320 b7c953cb6c1f80156d72b012e64c2f5b   ce9d8ffcc3b2509bdf8bee1e4787b014
## 322 b7c953cb6c1f80156d72b012e64c2f5b   dfe7ac4bf28ba478a59850d3ca63ceb3
## 323 b7c953cb6c1f80156d72b012e64c2f5b   fe37167d943dc7ea355615ecf8c775f9
## 324 b7c953cb6c1f80156d72b012e64c2f5b   a815dbe596b632b4fd406210c97257d5
## 326 58056c4dc037cb0dbba1ad30215034da   7a7ad17163012c8f04322273aebfe886
## 327 7e6e6a69493f1d54a74ecdd4058ebadf   68097a6cb16bbb5dbd68f19762081469
```

```
## 328 7e6e6a69493f1d54a74ecdd4058ebadf   338c1ca2a3984271538bc74eae7bef6b
## 329 7e6e6a69493f1d54a74ecdd4058ebadf   0c5f10813c5f6befe0da412e67a6aa60
## 330 7e6e6a69493f1d54a74ecdd4058ebadf   2b5ea6f3126404c7e4eda7825bed9899
## 331 7e6e6a69493f1d54a74ecdd4058ebadf   7b57fe76c35503b0a477d287ea00b37f
## 332 7e6e6a69493f1d54a74ecdd4058ebadf   1d6fdbb06fbbf58b46d607cf1685049e
## 333 7e6e6a69493f1d54a74ecdd4058ebadf   a8e17797adc14c4a0d5e471e1c51e978
## 334 7e6e6a69493f1d54a74ecdd4058ebadf   fb0584aba84a3668a9bbf0470fba3076
## 335 7e6e6a69493f1d54a74ecdd4058ebadf   d1c3771b9b322f68e211feb06e6be920
## 337 f697d5c9213997cc167707e4f07a8da8   a97ef9def423fd197a090c1cb628a69f
## 338 f697d5c9213997cc167707e4f07a8da8   3036ed5a46ad4a5a95f1539c3380b842
## 339 f697d5c9213997cc167707e4f07a8da8   425f17c638540b224c07192d531bb3cb
## 340 f697d5c9213997cc167707e4f07a8da8   7c1c7202e4c08021c2f734c5c8e2f087
## 341 f697d5c9213997cc167707e4f07a8da8   92bfa27dc07eba67b807bc12b1718d6f
## 342 f697d5c9213997cc167707e4f07a8da8   6a2b00bf02f70b2f261665b44e22013a
## 343 f697d5c9213997cc167707e4f07a8da8   2fb0249a6780ecbd5fee198521790376
## 344 f697d5c9213997cc167707e4f07a8da8   14298d51dc6aa40726467279e600b416
## 345 f697d5c9213997cc167707e4f07a8da8   d7349aa570a6e2f2211e14679cd3808b
## 347 54da3e417c8efaddfe60f2634e0655ff   fd4c92272d5a952adf7aad11c20458e1
## 348 3278ce887bc37a4d45550d5e8a6d6828   ef1cb6e72d149b184cc241037203f60b
## 350 ae042cc7daa59392f0ae30e0d7efea55   d0fa06cd93335c8cae357ffe5cd1c4e9
## 351 7e7c74a4b3543bfd71fdce2f52df44e2   5d44a032652974c3e53644945a95b126
## 352 18ec34f5d5544bbb34ac03bbd62d61cf   3691308f2a4c2f6983f2880d32e29c84
## 353 4c2954ca87d25ecb003e253dff6485b7   1f2dfa567dcf95833eddf7aec167fec7
## 354 7e01a8e692e1c5459b716e6af849922e   1e7342845e24eb3b5b3554490da1c128
## 355 d4c40ebf6bd149deed005ca123fa3110   051a9911de7b5bbc610b76f4eda834a0
## 356 3a263ca1825c7810dd45e801c9e9f45f Â e2075474294983e013ee4dd2201c7a73
## 357 ed892caec7a86a00ec5fbefdf5f44faf   6ce9c1c0b4443b31753cd40c34000efd
## 358 ed892caec7a86a00ec5fbefdf5f44faf   b133711dfc55c6e89213c01c58d59703
## 359 ed892caec7a86a00ec5fbefdf5f44faf   807d5b3793c7e1f047818dd2611b1589
## 361 ed892caec7a86a00ec5fbefdf5f44faf   74e358b9e1b44ee6129c7eb3344ee658
## 362 ed892caec7a86a00ec5fbefdf5f44faf   99a156a62a0944ba6887b90d4fd77b15
## 363 ed892caec7a86a00ec5fbefdf5f44faf   48cebdedc0acd343de4853d8e649058d
## 364 ed892caec7a86a00ec5fbefdf5f44faf   fc45e3258bed8dcae88f0dc0b3da94df
## 365 ed892caec7a86a00ec5fbefdf5f44faf   437d461430ecc08e2d51abbcf5ce9b3c
## 366 ed892caec7a86a00ec5fbefdf5f44faf   1ef53b7d22b7e7eafc7c7524078ac709
## 367 86687ae28f9bf74f509bc9cff3e967fe   4e87b49a355ca3040c49e3f513e07a7b
## 368 86687ae28f9bf74f509bc9cff3e967fe   42cf3ac3c39863c610fd0c41888fbcf4
## 369 86687ae28f9bf74f509bc9cff3e967fe   8545c7da3bff6d5e778c19a8e759e351
## 370 86687ae28f9bf74f509bc9cff3e967fe   2264bdbc3a7aae3cb9b76b698f187fcf
## 371 86687ae28f9bf74f509bc9cff3e967fe   0eeb85d58ab4b0dee8fe59e66fd1aa77
## 372 86687ae28f9bf74f509bc9cff3e967fe   1914e0a159363f777885a7f1faca745c
## 373 86687ae28f9bf74f509bc9cff3e967fe   b571d735f163b7bc0d011649a9577981
## 374 86687ae28f9bf74f509bc9cff3e967fe   94d8bb7c1e4e9711d4e3bbb0615216e5
## 375 86687ae28f9bf74f509bc9cff3e967fe   39a76aa6cff34621da972e912ea7437f
## 376 86687ae28f9bf74f509bc9cff3e967fe   aa0f777f2621c645eb8ebc33644c1fc8
## 377 ecfaf244516c0630fcdef6fbabceabbb   c6b2f100d6271c6090f4275221ed6acd
## 382 b5308193c0efcd28009d8b24742fda85   6cbfe40d341ebdb303629ddc4f360e7b
## 383 0e672b35628c692c17853f0c53986f17   5c2f639550d9c99da8a2eefb68a5f1b6
## 384 629993a0da2e6179b41e20bc5f666120   8764c922d792e1b418a3cca4f8dc01f8
## 386 448246f05cc1bd4128b33465736ceecc   89ef50937da644537ff6b0617aa19b30
## 387 18a53b0cfa2bcde3c1d12e74a2e10268   3fce10bbeef92f3fcf4937defb21c93e
## 388 18a53b0cfa2bcde3c1d12e74a2e10268   6a7c9f8d886b5f55dede69fdd6cfbd9d
## 389 18a53b0cfa2bcde3c1d12e74a2e10268   857efaebd410cc6683fb9e077e78222f
## 390 18a53b0cfa2bcde3c1d12e74a2e10268   4c86080cbd757fa1edd60b453d88c744
```

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## 391 18a53b0cfa2bcde3c1d12e74a2e10268   705374c66ddd3501ccffd1d54655411a
## 392 18a53b0cfa2bcde3c1d12e74a2e10268   0fee659d076b30c1c9fbd0ee7da70afb
## 393 18a53b0cfa2bcde3c1d12e74a2e10268   315231a7937b3434f3161307f49d491b
## 394 18a53b0cfa2bcde3c1d12e74a2e10268   9f1e5a14a0baf69bc7d5d658ddb53338
## 395 18a53b0cfa2bcde3c1d12e74a2e10268   d770a59f57acae2bf7e703192ba8ee50
## 396 18a53b0cfa2bcde3c1d12e74a2e10268   ce29d8c585d5abd57d61abc6d1cef92a
## 397 0185c7c2eed9d48197953305a817c8b1   0c22828099b789d62a96fc1f87928f43
## 398 0185c7c2eed9d48197953305a817c8b1   e821ba1edb9dc0a445b61d8ce702052a
## 399 0185c7c2eed9d48197953305a817c8b1   6b34fe24ac2ff8103f6fce1f0da2ef57
## 400 0185c7c2eed9d48197953305a817c8b1   0f91a4e5bcb75e278d54f8cca555cc4b
## 401 0185c7c2eed9d48197953305a817c8b1   10c7ccc7a4f0aff03c915c485565b9da
## 402 0185c7c2eed9d48197953305a817c8b1   559a7f208866f0063b1ea8d5ca2ee816
## 403 0185c7c2eed9d48197953305a817c8b1   a1361cb85be840d6a2d762c68e4910e2
## 404 0185c7c2eed9d48197953305a817c8b1   e6d9c335f6aa36754461e4dd4db30274
## 405 0185c7c2eed9d48197953305a817c8b1   d6ba0682d75eb986237fb6b594f8a31f
## 406 0185c7c2eed9d48197953305a817c8b1   5844a15e76563fedd11840fd6f40ea7b
## 407 b16ae1eae8d7351e997e8faf1f734d2c   6d7edc4358342d5ef92c052cb7c82057
## 408 b16ae1eae8d7351e997e8faf1f734d2c   bba47c925f1a291bc29bd58d19877c27
## 409 b16ae1eae8d7351e997e8faf1f734d2c   90e69f264a8c970f3222cf85e08425aa
## 410 b16ae1eae8d7351e997e8faf1f734d2c   3591727d81b72b421c3725c3b109f713
## 411 b16ae1eae8d7351e997e8faf1f734d2c   9f719255d46dd8b9b07935d891dc5295
## 412 b16ae1eae8d7351e997e8faf1f734d2c   2abb1295467cadf82cc69cc385c8db49
## 413 b16ae1eae8d7351e997e8faf1f734d2c   887bdcd0dc6901a24f30b41cff267176
## 414 b16ae1eae8d7351e997e8faf1f734d2c   90436fcf8fdad8e75690525f0e8a9018
## 416 b16ae1eae8d7351e997e8faf1f734d2c   ea6212772478ee71edd91f89af72c134
## 417 d22301490fef91bdc398d00a35c7b790   6c1a5b12d4bd24ab2966ee3f04252c40
## 418 fd540e43a7112f833051d2ed1fdbbbf0   281879078eb44eb9abee3125dfdf224a
## 419 fd540e43a7112f833051d2ed1fdbbbf0   7ec6624767095490c469559de77ae043
## 420 fd540e43a7112f833051d2ed1fdbbbf0   c943d1e478cf04dd55706758ca7307a1
## 421 59944aec47699b65f6a93c79913f64cd   87b84e65079f3a08a474971aa7f355ed
## 424 d441d1e30322901bf7caeee33f0ee9af   5d2dadc6682bf48ce49de8a5015a76bc
## 425 d441d1e30322901bf7caeee33f0ee9af   63f4ed4ecc6dd8196b024634aaba8207
##       height head.height arm.span age hand.length foot.length floor.hip
## 1   152.1000     23.0000 148.2000  21    16.95000    21.65000  87.75000
## 2   174.0000     22.1000 167.0000  22    18.55000    23.00000 102.25000
## 3   168.0000     18.0000 157.0000  23    15.00000    20.00000 102.00000
## 4   164.0000     23.0000 155.0000  23    17.00000    23.00000  88.00000
## 5   181.0000     26.0000 183.0000  23    20.00000    25.00000  99.00000
## 6   156.2000     22.5000 167.5000  63    18.35000    25.40000  96.00000
## 7   154.3000     22.5000 150.1000  59    17.05000    21.95000  89.50000
## 8   154.3000     23.0000 151.0000  23    17.00000    22.00000  88.00000
## 9   172.7000     20.0000 154.0000  20    18.00000    26.00000  96.00000
## 10  164.0000     23.0000 154.3000  26    17.00000    23.30000  88.00000
## 21  145.0000     18.8000 141.7000  87    17.00000    21.80000  88.90000
## 22  181.0000     24.3000 176.0000  30    17.90000    24.90000 105.00000
## 23  152.6000     18.3000 159.6000  60    17.20000    22.75000  90.15000
## 24  169.5000     21.0000 165.0000  20    18.35000    23.65000 103.35000
## 25  164.9000     19.1000 151.9000  47    17.20000    22.30000  99.50000
## 26  153.6000     22.2000 161.1000  22    18.20000    24.00000  92.15000
## 27  177.8000     20.5000 182.8000  26    18.60000    26.20000 102.45000
## 28  168.3000     22.2000 165.7000  27    17.20000    23.65000  95.25000
## 29  170.1000     22.5000 168.6000  26    17.15000    21.75000 101.40000
## 30  151.6000     19.9000 156.0000  61    16.30000    22.15000  95.60000
## 31  177.1650     23.4950 184.1500  38    19.20875    28.57500 104.45750
```

```
## 34  181.6100     23.4950 182.2450  36    19.84375    26.67000 108.42625
## 35  161.2900     22.8600 160.6550  36    17.46250    22.22500  97.15500
## 38  166.6875     21.9075 167.3225  35    18.17688    24.92375  95.56750
## 39  157.4800     22.2250 157.4800  52    16.35125    22.54250  93.34500
## 40  179.0700     23.1775 183.1975  59    20.32000    26.03500 106.83875
## 41  158.1150     22.2250 160.6550  57    17.30375    23.81250  95.72625
## 75  178.0000     21.0000 176.0000  47    19.25000    26.50000  93.75000
## 76  181.6100     20.3200 218.4400  22    17.78000    25.40000  99.03000
## 77  175.4000     19.6000 211.0000  23    17.05000    24.00000  95.65000
## 78  161.0000     18.0000 193.0000  20    16.00000    22.50000  88.00000
## 79  165.0000     18.5000 198.5000  52    16.00000    23.00000  90.00000
## 80  186.0000     21.0000 224.0000  61    18.00000    26.00000 101.00000
## 81  184.0000     20.5000 221.0000  25    18.00000    26.00000 100.00000
## 82  159.0000     18.0000 195.0000  23    16.00000    23.00000  88.50000
## 83  185.5000     21.0000 223.0000  26    18.00000    26.00000 101.00000
## 84  185.0000     21.0000 224.0000  22    18.00000    26.00000 101.50000
## 85  183.0000     23.0000 183.0000  21    19.50000    28.00000 106.00000
## 86  166.5000     20.5000 164.0000  20    18.00000    23.00000 100.75000
## 87  157.5000     23.0000 160.0000  23    18.00000    23.00000  82.25000
## 89  178.0000     23.0000 171.0000  54    20.00000    26.75000 100.50000
## 90  168.0000     20.0000 166.0000  61    19.50000    25.25000 102.00000
## 91  170.0000     27.0000 174.0000  20    17.75000    24.00000  94.00000
## 92  178.0000     24.0000 180.5000  22    18.50000    25.75000 100.50000
## 93  183.0000     25.0000 162.0000  23    21.00000    29.00000 103.00000
## 96  185.0000     24.0000 192.0000  57    21.00000    28.50000 113.00000
## 97  175.2600     24.1300 179.7050  35    19.49450    25.08250  93.98000
## 107 175.2600     23.4950 180.9750  21    18.87500    24.44750  97.15500
## 108 165.1000     21.5900 162.5600  21    16.51000    22.86000 101.28250
## 109 177.8000     24.7650 187.9600  21    19.68500    27.62250  98.10750
## 117 187.9600     23.4950 196.8500  46    20.32000    29.21000 104.14000
## 118 161.2900     20.3200 158.7500  44    17.78000    22.86000  92.07500
## 126 180.5000     21.5000 179.0000  26    18.75000    26.75000  98.75000
## 227 143.5000     22.0000 165.0000  24    17.00000    23.75000 100.50000
## 228 177.0000     24.0000 175.0000  27    19.00000    27.50000 101.50000
## 232 166.0000     20.0000 160.0000  51    18.75000    27.25000 100.50000
## 233 174.0000     22.0000 175.0000  28    19.00000    24.25000 103.00000
## 234 183.0000     23.0000 172.0000  30    19.00000    26.75000  95.50000
## 236 178.0000     23.0000 177.0000  19    20.00000    25.25000 103.50000
## 239 157.4800     20.0000 165.1000  41    16.50000    23.50000  94.00000
## 240 174.6250     23.5000 180.3400  45    19.50000    26.50000 103.00000
## 241 167.0000     22.0000 171.0000  30    20.00000    26.00000 102.00000
## 242 170.0000     24.0000 175.0000  33    21.00000    27.00000 105.00000
## 243 154.0000     21.0000 155.0000  21    16.60000    23.35000  96.15000
## 244 167.6400     24.0000 177.8000  21    18.00000    35.50000 101.00000
## 245 185.0000     25.0000 188.0000  27    20.00000    30.00000 104.00000
## 277 180.5000     26.5000 181.5000  29    21.50000    28.50000 100.50000
## 278 160.0000     20.0000 157.0000  57    18.00000    25.25000  96.50000
## 279 175.0000     24.0000 180.0000  50    24.00000    28.00000 104.25000
## 280 180.0000     23.0000 185.0000  24    20.50000    28.00000 101.50000
## 281 158.0000     24.5000 161.5000  23    16.50000    23.00000  97.25000
## 282 182.5000     25.0000 186.0000  23    19.00000    26.00000 108.00000
## 283 168.0000     26.0000 167.0000  21    19.00000    25.00000  95.50000
## 284 181.0000     25.5000 182.5000  56    22.00000    28.50000  95.50000
## 285 155.0000     22.0000 154.0000  56    17.50000    24.50000  94.50000
```

```
## 297 156.2100     20.3200 153.0350  28    16.51000    21.79320  88.58250
## 298 177.8000     23.4950 187.9600  27    18.83410    27.07640 102.33660
## 299 152.0825     20.9550 149.8600  61    18.98650    21.99640  86.48700
## 300 176.9364     20.9550 177.4825  61    20.95500    25.11425 100.11410
## 301 161.9250     19.0500 160.6550  54    18.41500    24.13000  93.98000
## 302 182.8800     22.8600 186.6900  55    19.05000    26.03500 107.63250
## 303 160.0200     21.1582 158.1150  63    17.78000    22.86000  86.80450
## 304 168.2750     20.5740 172.0850  28    17.78000    24.33320 102.85730
## 305 187.9600     20.3200 191.1350  27    20.00250    27.62250 104.77500
## 306 165.1000     20.9550 166.3700  36    17.78000    22.54250  96.08820
## 307 173.0000     22.0000 173.0000  23    17.75000    26.00000  96.00000
## 308 167.0000     18.0000 167.0000  25    18.00000    25.00000  94.75000
## 309 157.0000     19.0000 159.0000  50    16.50000    23.00000  88.50000
## 310 158.0000     24.0000 146.0000  94    17.00000    24.00000  89.50000
## 311 162.0000     22.5000 163.0000  72    18.50000    24.00000  96.00000
## 312 168.0000     28.0000 177.0000  72    19.00000    25.00000  93.50000
## 313 151.0000     20.0000 165.0000  76    18.00000    24.00000  95.75000
## 314 149.0000     29.0000 148.0000  68    16.50000    22.50000  93.25000
## 315 159.0000     23.0000 167.0000  75    16.75000    22.50000  93.00000
## 316 162.0000     22.5000 160.5000  77    17.75000    24.00000  98.00000
## 317 173.9900     25.0825 181.6100  27    18.89125    25.40000  89.53500
## 318 170.1800     18.4150 172.7200  58    16.51000    23.49500  96.52000
## 319 177.8000     25.4000 182.8800  52    17.78000    26.67000 105.41000
## 320 152.4000     24.1300 152.4000  53    15.87500    21.59000  87.63000
## 322 161.9250     19.6850 158.1150  61    17.46250    23.81250  79.69250
## 323 162.5600     21.5900 161.2900  68    17.78000    24.44750  90.17000
## 324 180.3400     20.3200 182.8800  69    18.41500    25.71750 102.23500
## 326 184.1500     20.9550 186.6900  30    19.05000    28.25750 104.77500
## 327 158.0000     22.0000 159.5000  62    17.00000    21.75000  92.50000
## 328 172.0000     24.0000 168.0000  68    19.50000    25.25000 100.00000
## 329 190.5000     22.2500 193.0000  36    21.00000    28.37500 105.12500
## 330 180.2500     21.5000 185.5000  42    19.87500    26.75000 109.00000
## 331 158.0000     20.5000 166.0000  33    16.75000    23.50000  84.75000
## 332 178.0000     22.0000 174.0000  34    17.50000    23.50000 102.50000
## 333 173.0000     20.0000 179.0000  36    18.25000    26.50000 100.75000
## 334 162.5000     20.3000 165.0000  38    17.40000    22.30000  96.50000
## 335 168.0000     20.0000 165.0000  40    18.00000    24.42500  91.50000
## 337 169.0000     22.0000 173.0000  23    19.50000    26.00000  97.00000
## 338 158.0000     21.5000 162.0000  23    18.00000    23.25000  88.00000
## 339 137.0000     23.0000 139.0000  31    17.50000    22.00000  78.50000
## 340 162.0000     24.0000 164.0000  60    20.25000    23.75000  86.00000
## 341 160.0000     23.0000 159.0000  52    19.00000    23.50000  83.50000
## 342 171.0000     23.0000 171.5000  64    19.00000    26.00000  96.50000
## 343 140.0000     20.0000 143.0000  47    17.00000    21.00000  79.00000
## 344 154.0000     23.5000 160.0000  25    19.25000    24.75000  89.50000
## 345 148.0000     24.0000 148.0000  22    17.00000    22.75000  89.00000
## 347 182.8800     23.4950 193.0400  25    19.05000    27.94000  99.06000
## 348 170.1800     38.1000 158.7500  26    17.46250    23.81250  90.17000
## 350 174.4980     20.3200 175.2600  28    18.66900    26.03500 105.53700
## 351 176.5300     19.0500 184.6580  58    19.93900    26.92400 107.18800
## 352 162.5600     33.0200 166.3700  26    19.05000    23.17750  91.75750
## 353 177.1650     20.9550 175.8950  24    18.41500    23.49500 100.01250
## 354 170.1800     22.8600 171.4500  28    18.41500    24.76500  92.07500
## 355 187.4520     22.2250 191.5160  59    20.82800    29.59100 112.39500
```

```
## 356 172.7200     21.5900 173.0375  28    18.41500    23.17750  98.74250
## 357 175.6000     21.0000 176.2000  21    18.40000    26.35000  94.75000
## 358 175.5000     20.0000 178.0000  22    19.90000    25.50000  93.00000
## 359 176.0000     20.5000 178.0000  58    20.05000    26.55000  94.00000
## 361 169.6000     20.6000 163.0000  51    17.00000    24.20000  89.00000
## 362 165.9000     21.0000 166.5000  53    17.80000    24.20000  84.10000
## 363 168.0000     23.0000 172.0000  21    17.00000    24.40000  87.90000
## 364 168.5000     21.0000 170.0000  55    18.90000    25.75000  91.75000
## 365 186.0000     21.5000 188.8000  56    20.00000    28.25000  96.25000
## 366 170.0000     18.5000 176.0000  22    19.00000    26.00000  93.00000
## 367 168.9000     21.5000 174.0000  28    19.00000    24.30000  96.75000
## 368 181.0000     22.8000 190.5000  38    19.70000    26.70000 103.20000
## 369 160.0000     22.0000 157.5000  28    17.20000    22.00000  91.00000
## 370 173.0000     25.0000 182.0000  29    18.90000    25.00000  98.50000
## 371 163.0000     22.0000 170.0000  63    17.10000    24.15000  92.10000
## 372 185.4000     24.3000 181.6000  32    18.40000    30.50000 101.60000
## 373 163.0000     21.0000 147.3000  29    15.00000    22.15000  91.45000
## 374 167.0000     23.0000 171.0000  48    18.00000    26.50000  92.50000
## 375 167.7000     31.0000 168.9000  55    21.20000    25.85000  94.55000
## 376 167.7000     30.0000 174.0000  39    17.15000    27.50000  94.00000
## 377 160.0200     19.0500 167.6400  22    17.78000    26.22550  88.90000
## 382 172.7200     21.5900 177.8000  22    21.59000    26.67000  82.55000
## 383 177.8000     21.5900 185.4200  21    22.22500    27.94000  84.77250
## 384 152.4000     19.6850 154.9400  22    15.87500    21.90750  84.77250
## 386 167.6400     19.6850 177.8000  19    18.41500    26.67000  87.63000
## 387 167.5000     25.0000 158.0000  21    19.50000    24.00000  95.75000
## 388 172.5000     22.5000 174.5000  25    20.00000    25.25000 101.25000
## 389 182.5000     23.0000 183.5000  25    19.75000    26.00000 100.00000
## 390 189.0000     22.0000 185.8000  23    19.75000    26.30000 110.50000
## 391 182.0000     23.5000 182.5000  21    20.40000    26.05000 113.00000
## 392 180.5000     22.0000 177.5000  20    19.70000    26.60000 107.25000
## 393 172.0850     22.8600 168.9100  55    18.41500    26.98750  97.15500
## 394 157.4800     20.3200 152.4000  53    17.78000    22.86000  88.90000
## 395 154.9400     21.5900 152.4000  20    18.41500    21.59000  83.18500
## 396 177.5000     24.0000 181.5000  26    19.35000    25.50000 106.50000
## 397 185.0000     23.0000 196.0000  28    19.00000    27.00000 103.00000
## 398 188.0000     22.5000 187.0000  25    19.50000    26.00000 101.00000
## 399 184.0000     24.0000 183.0000  24    21.00000    26.00000 105.50000
## 400 173.0000     22.0000 173.0000  50    17.00000    24.00000  99.00000
## 401 178.0000     24.0000 183.0000  52    21.00000    27.00000 101.00000
## 402 160.0000     23.5000 165.0000  29    17.25000    23.25000  95.50000
## 403 184.5000     24.0000 190.5000  21    20.00000    28.00000  95.75000
## 404 165.0000     23.0000 167.5000  27    18.00000    23.75000  99.00000
## 405 180.5000     21.5000 185.5000  32    19.00000    26.50000  99.25000
## 406 158.0000     23.0000 163.0000  25    17.00000    23.00000  96.00000
## 407 163.8000     20.8000 171.4000  22    17.35000    22.65000  91.25000
## 408 167.6000     21.0000 165.8000  25    17.35000    21.85000  99.85000
## 409 166.9000     20.8000 157.2260  25    16.85000    22.15000  92.05000
## 410 160.2000     21.5900 161.5000  55    17.75000    38.75000  96.75000
## 411 189.4000     21.3000 175.1000  55    19.30000    28.90000 101.10000
## 412 165.7000     21.7000 163.6000  22    15.25000    21.75000  98.60000
## 413 166.6000     20.1000 169.7000  22    16.45000    24.15000  90.65000
## 414 176.8000     20.1000 175.3000  21    16.65000    25.65000  87.80000
## 416 172.2000     19.1000 173.4000  26    17.60000    24.90000  91.70000
```

```
## 417 188.0000     24.5000 156.5000  53    20.25000    28.75000 112.50000
## 418 170.1800     25.4000 171.5000  53    18.75000    22.25000  92.75000
## 419 154.9400     20.9550 154.9400  49    19.59250    24.38400  93.24000
## 420 164.4650     20.9550 161.2900  20    18.57375    21.59000  94.79000
## 421 177.8000     22.8600 185.4200  40    20.00250    27.62250 110.49000
## 424 176.5300     21.5900 180.3400  43    19.68500    25.40000 101.28250
## 425 171.4500     20.3200 170.1800  42    17.78000    24.13000  95.88500
##     my.ethnicity my.gender new.units height/height head.height/height
## 1              w         f        cm             1          0.1512163
## 2              h         m        cm             1          0.1270115
## 3              b         m        cm             1          0.1071429
## 4              w         f        cm             1          0.1402439
## 5              w         f        cm             1          0.1436464
## 6              w         m        cm             1          0.1440461
## 7              w         f        cm             1          0.1458198
## 8              w         m        cm             1          0.1490603
## 9              w         f        cm             1          0.1158078
## 10             w         f        cm             1          0.1402439
## 21             w         f        cm             1          0.1296552
## 22             w         m        cm             1          0.1342541
## 23             w         f        cm             1          0.1199214
## 24             a         f        cm             1          0.1238938
## 25             w         f        cm             1          0.1158278
## 26             b         f        cm             1          0.1445312
## 27             w         m        cm             1          0.1152981
## 28             w         f        cm             1          0.1319073
## 29             w         m        cm             1          0.1322751
## 30             w         f        cm             1          0.1312665
## 31             w         m        cm             1          0.1326165
## 34             w         m        cm             1          0.1293706
## 35             w         f        cm             1          0.1417323
## 38             w         f        cm             1          0.1314286
## 39             w         f        cm             1          0.1411290
## 40             w         m        cm             1          0.1294326
## 41             w         f        cm             1          0.1405622
## 75             w         m        cm             1          0.1179775
## 76             w         m        cm             1          0.1118881
## 77             w         m        cm             1          0.1117446
## 78             w         f        cm             1          0.1118012
## 79             w         f        cm             1          0.1121212
## 80             w         m        cm             1          0.1129032
## 81             w         m        cm             1          0.1114130
## 82             h         f        cm             1          0.1132075
## 83             w         m        cm             1          0.1132075
## 84             w         m        cm             1          0.1135135
## 85             w         m        cm             1          0.1256831
## 86             w         f        cm             1          0.1231231
## 87             a         m        cm             1          0.1460317
## 89             w         m        cm             1          0.1292135
## 90             w         f        cm             1          0.1190476
## 91             w         f        cm             1          0.1588235
## 92             w         m        cm             1          0.1348315
## 93             w         m        cm             1          0.1366120
## 96             w         m        cm             1          0.1297297
```

```
## 97          w        m        cm          1        0.1376812
## 107         w        m        cm          1        0.1340580
## 108         w        f        cm          1        0.1307692
## 109         w        m        cm          1        0.1392857
## 117         w        m        cm          1        0.1250000
## 118         a        f        cm          1        0.1259843
## 126         w        m        cm          1        0.1191136
## 227         w        f        cm          1        0.1533101
## 228         w        m        cm          1        0.1355932
## 232         w        f        cm          1        0.1204819
## 233         w        f        cm          1        0.1264368
## 234         w        m        cm          1        0.1256831
## 236         w        m        cm          1        0.1292135
## 239         w        f        cm          1        0.1270003
## 240         w        m        cm          1        0.1345741
## 241         w        f        cm          1        0.1317365
## 242         w        m        cm          1        0.1411765
## 243         a        f        cm          1        0.1363636
## 244         w        f        cm          1        0.1431639
## 245         l        m        cm          1        0.1351351
## 277         w        m        cm          1        0.1468144
## 278         w        f        cm          1        0.1250000
## 279         w        m        cm          1        0.1371429
## 280         w        m        cm          1        0.1277778
## 281         w        f        cm          1        0.1550633
## 282         w        m        cm          1        0.1369863
## 283        wf        m        cm          1        0.1547619
## 284         w        m        cm          1        0.1408840
## 285         w        f        cm          1        0.1419355
## 297         w        f        cm          1        0.1300813
## 298         w        m        cm          1        0.1321429
## 299         w        f        cm          1        0.1377871
## 300         w        m        cm          1        0.1184324
## 301         w        f        cm          1        0.1176471
## 302         w        m        cm          1        0.1250000
## 303         w        f        cm          1        0.1322222
## 304         w        f        cm          1        0.1222642
## 305         w        m        cm          1        0.1081081
## 306         w        f        cm          1        0.1269231
## 307         a        m        cm          1        0.1271676
## 308         a        f        cm          1        0.1077844
## 309         a        f        cm          1        0.1210191
## 310         a        f        cm          1        0.1518987
## 311         a        f        cm          1        0.1388889
## 312         a        m        cm          1        0.1666667
## 313         a        f        cm          1        0.1324503
## 314         a        f        cm          1        0.1946309
## 315         a        m        cm          1        0.1446541
## 316         a        m        cm          1        0.1388889
## 317         w        m        cm          1        0.1441606
## 318         w        f        cm          1        0.1082090
## 319         w        m        cm          1        0.1428571
## 320         w        f        cm          1        0.1583333
## 322         w        f        cm          1        0.1215686
```

```
## 323          w        f        cm          1        0.1328125
## 324          w        m        cm          1        0.1126761
## 326          w        m        cm          1        0.1137931
## 327          a        f        cm          1        0.1392405
## 328          a        m        cm          1        0.1395349
## 329          w        m        cm          1        0.1167979
## 330          w        f        cm          1        0.1192788
## 331          a        f        cm          1        0.1297468
## 332          w        m        cm          1        0.1235955
## 333          a        m        cm          1        0.1156069
## 334          a        f        cm          1        0.1249231
## 335          w        m        cm          1        0.1190476
## 337         ca        m        cm          1        0.1301775
## 338          a        f        cm          1        0.1360759
## 339          a        m        cm          1        0.1678832
## 340          a        m        cm          1        0.1481481
## 341          a        f        cm          1        0.1437500
## 342          w        m        cm          1        0.1345029
## 343          a        f        cm          1        0.1428571
## 344         ca        m        cm          1        0.1525974
## 345         ca        f        cm          1        0.1621622
## 347          w        m        cm          1        0.1284722
## 348          a        m        cm          1        0.2238806
## 350         al        m        cm          1        0.1164483
## 351          w        f        cm          1        0.1079137
## 352         al        f        cm          1        0.2031250
## 353          w        f        cm          1        0.1182796
## 354          w        m        cm          1        0.1343284
## 355          w        m        cm          1        0.1185637
## 356          w        f        cm          1        0.1250000
## 357          w        f        cm          1        0.1195900
## 358          w        f        cm          1        0.1139601
## 359          w        f        cm          1        0.1164773
## 361          w        f        cm          1        0.1214623
## 362          w        m        cm          1        0.1265823
## 363          w        f        cm          1        0.1369048
## 364          w        f        cm          1        0.1246291
## 365          w        m        cm          1        0.1155914
## 366          a        m        cm          1        0.1088235
## 367          a        f        cm          1        0.1272943
## 368          w        m        cm          1        0.1259669
## 369          a        f        cm          1        0.1375000
## 370          w        m        cm          1        0.1445087
## 371          a        f        cm          1        0.1349693
## 372          w        m        cm          1        0.1310680
## 373          w        f        cm          1        0.1288344
## 374          h        f        cm          1        0.1377246
## 375         pi        f        cm          1        0.1848539
## 376          h        f        cm          1        0.1788909
## 377          b        m        cm          1        0.1190476
## 382          a        m        cm          1        0.1250000
## 383          w        m        cm          1        0.1214286
## 384          w        f        cm          1        0.1291667
## 386          a        m        cm          1        0.1174242
```

```
## 387            w         m        cm              1          0.1492537
## 388            w         m        cm              1          0.1304348
## 389            l         m        cm              1          0.1260274
## 390            w         m        cm              1          0.1164021
## 391            w         m        cm              1          0.1291209
## 392            w         m        cm              1          0.1218837
## 393            w         m        cm              1          0.1328413
## 394            w         f        cm              1          0.1290323
## 395            a         o        cm              1          0.1393443
## 396            a         m        cm              1          0.1352113
## 397            w         m        cm              1          0.1243243
## 398            w         m        cm              1          0.1196809
## 399            w         m        cm              1          0.1304348
## 400            w         f        cm              1          0.1271676
## 401            w         m        cm              1          0.1348315
## 402          nat         f        cm              1          0.1468750
## 403            w         m        cm              1          0.1300813
## 404            w         f        cm              1          0.1393939
## 405           ji         m        cm              1          0.1191136
## 406            w         f        cm              1          0.1455696
## 407            w         f        cm              1          0.1269841
## 408            w         f        cm              1          0.1252983
## 409            w         f        cm              1          0.1246255
## 410            w         f        cm              1          0.1347690
## 411            w         m        cm              1          0.1124604
## 412            w         f        cm              1          0.1309596
## 413            w         f        cm              1          0.1206483
## 414            w         f        cm              1          0.1136878
## 416            w         f        cm              1          0.1109175
## 417            w         m        cm              1          0.1303191
## 418            w         m        cm              1          0.1492537
## 419            a         f        cm              1          0.1352459
## 420            a         f        cm              1          0.1274131
## 421            w         m        cm              1          0.1285714
## 424            w         m        cm              1          0.1223022
## 425            w         f        cm              1          0.1185185
##     arm.span/height hand.length/height foot.length/height floor.hip/height
## 1         0.9743590         0.11143984          0.1423406        0.5769231
## 2         0.9597701         0.10660920          0.1321839        0.5876437
## 3         0.9345238         0.08928571          0.1190476        0.6071429
## 4         0.9451220         0.10365854          0.1402439        0.5365854
## 5         1.0110497         0.11049724          0.1381215        0.5469613
## 6         1.0723431         0.11747759          0.1626120        0.6145967
## 7         0.9727803         0.11049903          0.1422553        0.5800389
## 8         0.9786131         0.11017498          0.1425794        0.5703176
## 9         0.8917197         0.10422698          0.1505501        0.5558772
## 10        0.9408537         0.10365854          0.1420732        0.5365854
## 21        0.9772414         0.11724138          0.1503448        0.6131034
## 22        0.9723757         0.09889503          0.1375691        0.5801105
## 23        1.0458716         0.11271298          0.1490826        0.5907602
## 24        0.9734513         0.10825959          0.1395280        0.6097345
## 25        0.9211643         0.10430564          0.1352335        0.6033960
## 26        1.0488281         0.11848958          0.1562500        0.5999349
## 27        1.0281215         0.10461192          0.1473566        0.5762092
```

```
## 28        0.9845514        0.10219846        0.1405229        0.5659537
## 29        0.9911817        0.10082305        0.1278660        0.5961199
## 30        1.0290237        0.10751979        0.1461082        0.6306069
## 31        1.0394265        0.10842294        0.1612903        0.5896057
## 34        1.0034965        0.10926573        0.1468531        0.5970280
## 35        0.9960630        0.10826772        0.1377953        0.6023622
## 38        1.0038095        0.10904762        0.1495238        0.5733333
## 39        1.0000000        0.10383065        0.1431452        0.5927419
## 40        1.0230496        0.11347518        0.1453901        0.5966312
## 41        1.0160643        0.10943775        0.1506024        0.6054217
## 75        0.9887640        0.10814607        0.1488764        0.5266854
## 76        1.2027972        0.09790210        0.1398601        0.5452894
## 77        1.2029647        0.09720639        0.1368301        0.5453250
## 78        1.1987578        0.09937888        0.1397516        0.5465839
## 79        1.2030303        0.09696970        0.1393939        0.5454545
## 80        1.2043011        0.09677419        0.1397849        0.5430108
## 81        1.2010870        0.09782609        0.1413043        0.5434783
## 82        1.2264151        0.10062893        0.1446541        0.5566038
## 83        1.2021563        0.09703504        0.1401617        0.5444744
## 84        1.2108108        0.09729730        0.1405405        0.5486486
## 85        1.0000000        0.10655738        0.1530055        0.5792350
## 86        0.9849850        0.10810811        0.1381381        0.6051051
## 87        1.0158730        0.11428571        0.1460317        0.5222222
## 89        0.9606742        0.11235955        0.1502809        0.5646067
## 90        0.9880952        0.11607143        0.1502976        0.6071429
## 91        1.0235294        0.10441176        0.1411765        0.5529412
## 92        1.0140449        0.10393258        0.1446629        0.5646067
## 93        0.8852459        0.11475410        0.1584699        0.5628415
## 96        1.0378378        0.11351351        0.1540541        0.6108108
## 97        1.0253623        0.11123188        0.1431159        0.5362319
## 107       1.0326087        0.10769714        0.1394928        0.5543478
## 108       0.9846154        0.10000000        0.1384615        0.6134615
## 109       1.0571429        0.11071429        0.1553571        0.5517857
## 117       1.0472973        0.10810811        0.1554054        0.5540541
## 118       0.9842520        0.11023622        0.1417323        0.5708661
## 126       0.9916898        0.10387812        0.1481994        0.5470914
## 227       1.1498258        0.11846690        0.1655052        0.7003484
## 228       0.9887006        0.10734463        0.1553672        0.5734463
## 232       0.9638554        0.11295181        0.1641566        0.6054217
## 233       1.0057471        0.10919540        0.1393678        0.5919540
## 234       0.9398907        0.10382514        0.1461749        0.5218579
## 236       0.9943820        0.11235955        0.1418539        0.5814607
## 239       1.0483871        0.10477521        0.1492253        0.5969012
## 240       1.0327273        0.11166786        0.1517538        0.5898354
## 241       1.0239521        0.11976048        0.1556886        0.6107784
## 242       1.0294118        0.12352941        0.1588235        0.6176471
## 243       1.0064935        0.10779221        0.1516234        0.6243506
## 244       1.0606061        0.10737294        0.2117633        0.6024815
## 245       1.0162162        0.10810811        0.1621622        0.5621622
## 277       1.0055402        0.11911357        0.1578947        0.5567867
## 278       0.9812500        0.11250000        0.1578125        0.6031250
## 279       1.0285714        0.13714286        0.1600000        0.5957143
## 280       1.0277778        0.11388889        0.1555556        0.5638889
## 281       1.0221519        0.10443038        0.1455696        0.6155063
```

```
## 282       1.0191781         0.10410959         0.1424658         0.5917808
## 283       0.9940476         0.11309524         0.1488095         0.5684524
## 284       1.0082873         0.12154696         0.1574586         0.5276243
## 285       0.9935484         0.11290323         0.1580645         0.6096774
## 297       0.9796748         0.10569106         0.1395122         0.5670732
## 298       1.0571429         0.10592857         0.1522857         0.5755714
## 299       0.9853862         0.12484342         0.1446347         0.5686848
## 300       1.0030864         0.11843239         0.1419394         0.5658197
## 301       0.9921569         0.11372549         0.1490196         0.5803922
## 302       1.0208333         0.10416667         0.1423611         0.5885417
## 303       0.9880952         0.11111111         0.1428571         0.5424603
## 304       1.0226415         0.10566038         0.1446038         0.6112453
## 305       1.0168919         0.10641892         0.1469595         0.5574324
## 306       1.0076923         0.10769231         0.1365385         0.5820000
## 307       1.0000000         0.10260116         0.1502890         0.5549133
## 308       1.0000000         0.10778443         0.1497006         0.5673653
## 309       1.0127389         0.10509554         0.1464968         0.5636943
## 310       0.9240506         0.10759494         0.1518987         0.5664557
## 311       1.0061728         0.11419753         0.1481481         0.5925926
## 312       1.0535714         0.11309524         0.1488095         0.5565476
## 313       1.0927152         0.11920530         0.1589404         0.6341060
## 314       0.9932886         0.11073826         0.1510067         0.6258389
## 315       1.0503145         0.10534591         0.1415094         0.5849057
## 316       0.9907407         0.10956790         0.1481481         0.6049383
## 317       1.0437956         0.10857664         0.1459854         0.5145985
## 318       1.0149254         0.09701493         0.1380597         0.5671642
## 319       1.0285714         0.10000000         0.1500000         0.5928571
## 320       1.0000000         0.10416667         0.1416667         0.5750000
## 322       0.9764706         0.10784314         0.1470588         0.4921569
## 323       0.9921875         0.10937500         0.1503906         0.5546875
## 324       1.0140845         0.10211268         0.1426056         0.5669014
## 326       1.0137931         0.10344828         0.1534483         0.5689655
## 327       1.0094937         0.10759494         0.1376582         0.5854430
## 328       0.9767442         0.11337209         0.1468023         0.5813953
## 329       1.0131234         0.11023622         0.1489501         0.5518373
## 330       1.0291262         0.11026352         0.1484050         0.6047157
## 331       1.0506329         0.10601266         0.1487342         0.5363924
## 332       0.9775281         0.09831461         0.1320225         0.5758427
## 333       1.0346821         0.10549133         0.1531792         0.5823699
## 334       1.0153846         0.10707692         0.1372308         0.5938462
## 335       0.9821429         0.10714286         0.1453869         0.5446429
## 337       1.0236686         0.11538462         0.1538462         0.5739645
## 338       1.0253165         0.11392405         0.1471519         0.5569620
## 339       1.0145985         0.12773723         0.1605839         0.5729927
## 340       1.0123457         0.12500000         0.1466049         0.5308642
## 341       0.9937500         0.11875000         0.1468750         0.5218750
## 342       1.0029240         0.11111111         0.1520468         0.5643275
## 343       1.0214286         0.12142857         0.1500000         0.5642857
## 344       1.0389610         0.12500000         0.1607143         0.5811688
## 345       1.0000000         0.11486486         0.1537162         0.6013514
## 347       1.0555556         0.10416667         0.1527778         0.5416667
## 348       0.9328358         0.10261194         0.1399254         0.5298507
## 350       1.0043668         0.10698690         0.1491994         0.6048035
## 351       1.0460432         0.11294964         0.1525180         0.6071942
```

```
## 352      1.0234375       0.11718750      0.1425781       0.5644531
## 353      0.9928315       0.10394265      0.1326165       0.5645161
## 354      1.0074627       0.10820896      0.1455224       0.5410448
## 355      1.0216802       0.11111111      0.1578591       0.5995935
## 356      1.0018382       0.10661765      0.1341912       0.5716912
## 357      1.0034169       0.10478360      0.1500569       0.5395786
## 358      1.0142450       0.11339031      0.1452991       0.5299145
## 359      1.0113636       0.11392045      0.1508523       0.5340909
## 361      0.9610849       0.10023585      0.1426887       0.5247642
## 362      1.0036166       0.10729355      0.1458710       0.5069319
## 363      1.0238095       0.10119048      0.1452381       0.5232143
## 364      1.0089021       0.11216617      0.1528190       0.5445104
## 365      1.0150538       0.10752688      0.1518817       0.5174731
## 366      1.0352941       0.11176471      0.1529412       0.5470588
## 367      1.0301954       0.11249260      0.1438721       0.5728242
## 368      1.0524862       0.10883978      0.1475138       0.5701657
## 369      0.9843750       0.10750000      0.1375000       0.5687500
## 370      1.0520231       0.10924855      0.1445087       0.5693642
## 371      1.0429448       0.10490798      0.1481595       0.5650307
## 372      0.9795038       0.09924488      0.1645092       0.5480043
## 373      0.9036810       0.09202454      0.1358896       0.5610429
## 374      1.0239521       0.10778443      0.1586826       0.5538922
## 375      1.0071556       0.12641622      0.1541443       0.5638044
## 376      1.0375671       0.10226595      0.1639833       0.5605247
## 377      1.0476190       0.11111111      0.1638889       0.5555556
## 382      1.0294118       0.12500000      0.1544118       0.4779412
## 383      1.0428571       0.12500000      0.1571429       0.4767857
## 384      1.0166667       0.10416667      0.1437500       0.5562500
## 386      1.0606061       0.10984848      0.1590909       0.5227273
## 387      0.9432836       0.11641791      0.1432836       0.5716418
## 388      1.0115942       0.11594203      0.1463768       0.5869565
## 389      1.0054795       0.10821918      0.1424658       0.5479452
## 390      0.9830688       0.10449735      0.1391534       0.5846561
## 391      1.0027473       0.11208791      0.1431319       0.6208791
## 392      0.9833795       0.10914127      0.1473684       0.5941828
## 393      0.9815498       0.10701107      0.1568266       0.5645756
## 394      0.9677419       0.11290323      0.1451613       0.5645161
## 395      0.9836066       0.11885246      0.1393443       0.5368852
## 396      1.0225352       0.10901408      0.1436620       0.6000000
## 397      1.0594595       0.10270270      0.1459459       0.5567568
## 398      0.9946809       0.10372340      0.1382979       0.5372340
## 399      0.9945652       0.11413043      0.1413043       0.5733696
## 400      1.0000000       0.09826590      0.1387283       0.5722543
## 401      1.0280899       0.11797753      0.1516854       0.5674157
## 402      1.0312500       0.10781250      0.1453125       0.5968750
## 403      1.0325203       0.10840108      0.1517615       0.5189702
## 404      1.0151515       0.10909091      0.1439394       0.6000000
## 405      1.0277008       0.10526316      0.1468144       0.5498615
## 406      1.0316456       0.10759494      0.1455696       0.6075949
## 407      1.0463980       0.10592186      0.1382784       0.5570818
## 408      0.9892601       0.10352029      0.1303699       0.5957637
## 409      0.9420371       0.10095866      0.1327142       0.5515279
## 410      1.0081149       0.11079900      0.2418851       0.6039326
## 411      0.9244984       0.10190074      0.1525871       0.5337909
```

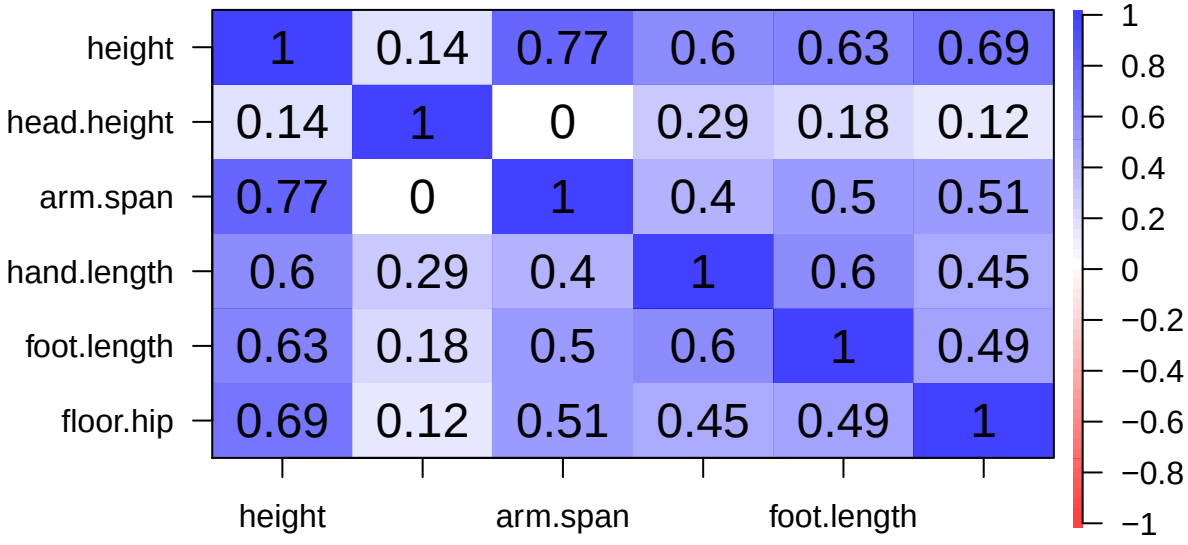
```
## 412       0.9873265         0.09203380         0.1312613         0.5950513
## 413       1.0186074         0.09873950         0.1449580         0.5441176
## 414       0.9915158         0.09417421         0.1450792         0.4966063
## 416       1.0069686         0.10220674         0.1445993         0.5325203
## 417       0.8324468         0.10771277         0.1529255         0.5984043
## 418       1.0077565         0.11017746         0.1307439         0.5450112
## 419       1.0000000         0.12645218         0.1573770         0.6017813
## 420       0.9806950         0.11293436         0.1312741         0.5763536
## 421       1.0428571         0.11250000         0.1553571         0.6214286
## 424       1.0215827         0.11151079         0.1438849         0.5737410
## 425       0.9925926         0.10370370         0.1407407         0.5592593
```

```
sample.cor <- cor(na.omit(sample.data[,c(3:5,7:9)]))
library(corrgram)
```

```
##
## Attaching package: 'corrgram'
```

```
## The following object is masked from 'package:lattice':
##
##     panel.fill
```

```
corPlot(sample.cor)
```



```
path.project = "C:/_git_/WSU_STATS419_FALL2020/project-measure/";
path.tables = paste0(path.project,"tables/");
  createDirRecursive(path.tables);
```

```
file.correlation = paste0(path.tables,"correlation-table.tex");
myData = as.matrix(sample.data[,c(3:5,7:9)]);  # numeric values only, only what will appear in table
# https://www.overleaf.com/read/srzhrcryjpwn
# keepaspectratio of include graphics
# could scale \input if still too big ...
# https://tex.stackexchange.com/questions/13460/scalebox-knowing-how-much-it-scales#13487
buildLatexCorrelationTable(myData,
  rotateTable = TRUE,
  width.table = 0.80, # best for given data ... 0.95 when rotateTable = FALSE
                      # 0.60 when rotateTable = TRUE
  myCaption = "Descriptive Statistics and Correlation Analysis",
  myFile = file.correlation,
  myNames = colnames(myData),
  showOnes = "right")
Sys.sleep(2); # in case Knit-PDF doesn't like that I just created the file...
```

I want to explore possible relationships between ethnicity and measurements, and between gender and measurements. I can possibly compare by race instead of ethnicity. Difference between child and adults, female and male...

```
height.m <- sample.data$height[sample.data$my.gender == 'm']
height.f <- sample.data$height[sample.data$my.gender == 'f']
head.height.m <- sample.data$head.height[sample.data$my.gender == 'm']
head.height.f <- sample.data$head.height[sample.data$my.gender == 'f']
arm.span.m <- sample.data$arm.span[sample.data$my.gender == 'm']
arm.span.f <- sample.data$arm.span[sample.data$my.gender == 'f']
floor.hip.m <- sample.data$floor.hip[sample.data$my.gender == 'm']
floor.hip.f <- sample.data$floor.hip[sample.data$my.gender == 'f']
hand.length.m <- sample.data$hand.length[sample.data$my.gender == 'm']
hand.length.f <- sample.data$hand.length[sample.data$my.gender == 'f']
foot.length.m <- sample.data$foot.length[sample.data$my.gender == 'm']
foot.length.f <- sample.data$foot.length[sample.data$my.gender == 'f']

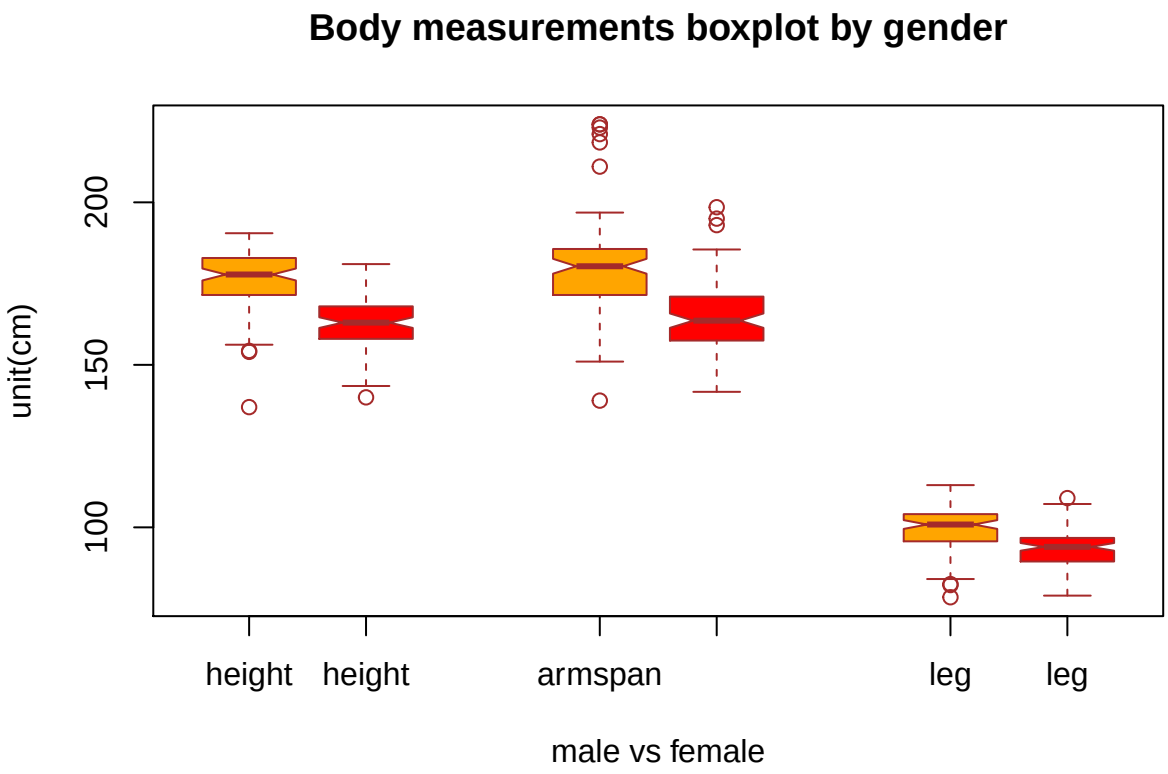

boxplot(height.m, height.f, arm.span.m, arm.span.f, floor.hip.m, floor.hip.f,
main = "Body measurements boxplot by gender",
at=c(1,2,4,5,7,8),
xlab = "male vs female",
ylab = "unit(cm)",
names=c("height", "height", "armspan", "armspan", "leg", "leg"),
col = c("orange", 'red'),
border = "brown",
notch = TRUE)
```

Table 1: Descriptive Statistics and Correlation Analysis

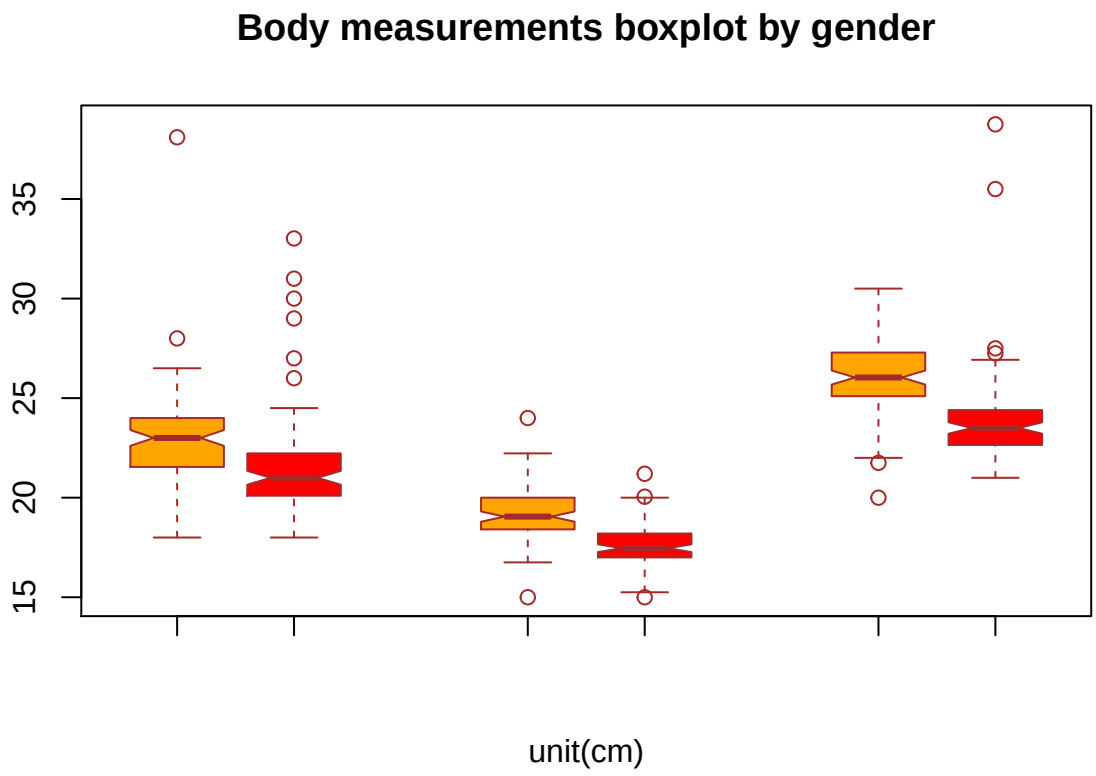
		M	SD	1	2	3	4	5
1	**height**	169.6	10.95	1				
2	**head.height**	22.3	2.55	.14†	1			
3	**arm.span**	172.2	15.15	.77***	.00	1		
4	**hand.length**	18.4	1.47	.60***	.29***	.40***	1	
5	**foot.length**	25.0	2.44	.63***	.18*	.50***	.60***	1
6	**floor.hip**	96.6	6.96	.69***	.12	.51***	.45***	.49***

Notes: Pearson pairwise correlations are reported;
a two-side test was performed to report correlation significance.

$^{\dagger}p < .10$ $^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$




```
boxplot(head.height.m, head.height.f,hand.length.m, hand.length.f, foot.length.m, foot.length.f,
main = "Body measurements boxplot by gender",
at=c(1,2,4,5,7,8),
xlab = "unit(cm)",
col = c("orange", 'red'),
border = "brown",
notch = TRUE)
```



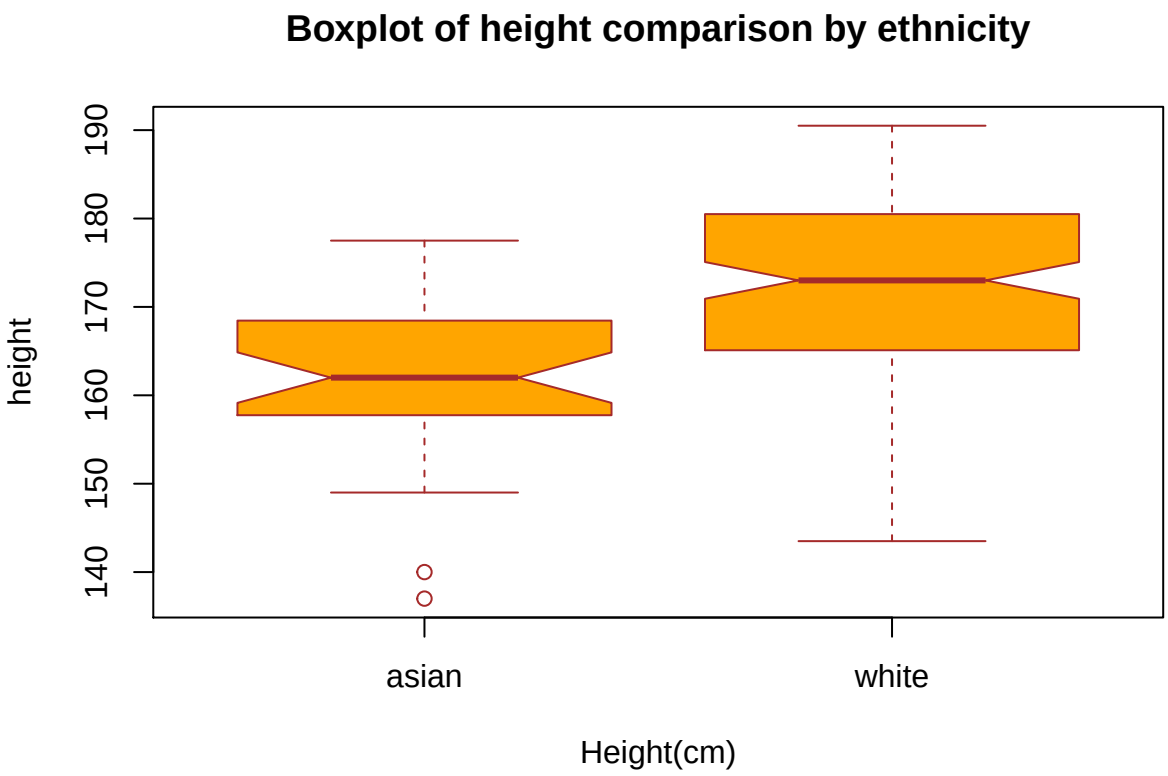

```
# boxplot(height.m, height.f,
# main = "Boxplot of height comparision by gender",
# names=c("male", "female"),
# xlab = "Height(cm)",
# col = c("orange", 'red'),
# border = "brown",
# notch = TRUE)

##############################
# boxplot(height~my.ethnicity,
# data = sample.data,
# main = "Boxplot of height comparision by ethnicity",
# xlab = "Height(cm)",
# col = "orange",
# border = "brown",
# notch = TRUE)

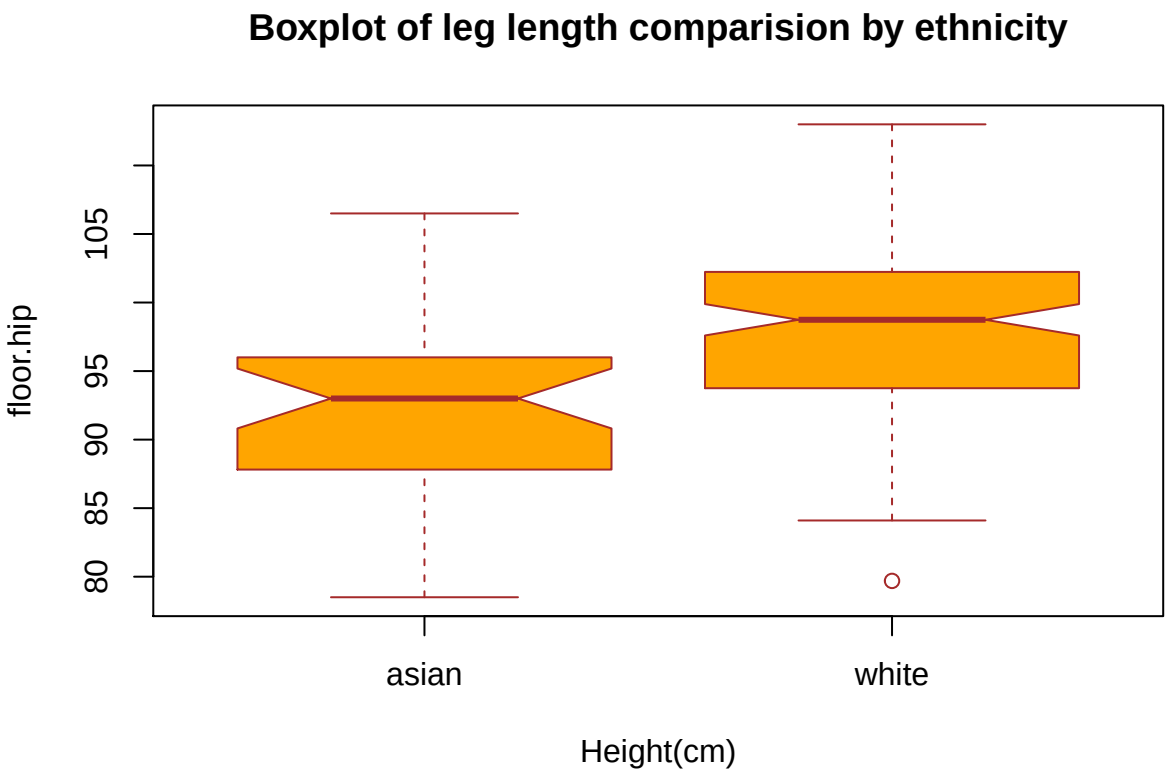
##############################
filtered.measure <-sample.data[sample.data$my.ethnicity=='a' | sample.data$my.ethnicity=='w',]
filtered.measure$my.ethnicity <-factor(filtered.measure$my.ethnicity)

boxplot(height~my.ethnicity,
data = filtered.measure,
main = "Boxplot of height comparison by ethnicity",
names=c("asian","white"),
xlab = "Height(cm)",
```

```
col = "orange",
border = "brown",
notch = TRUE)
```




```
boxplot(floor.hip~my.ethnicity,
data = filtered.measure,
main = "Boxplot of leg length comparision by ethnicity",
names=c("asian","white"),
xlab = "Height(cm)",
col = "orange",
border = "brown",
notch = TRUE)
```




```
a.height.m <- filtered.measure$height[filtered.measure$my.gender == 'm' & filtered.measure$my.ethnicity
a.height.f <- filtered.measure$height[filtered.measure$my.gender == 'f'& filtered.measure$my.ethnicity =
w.height.m <- filtered.measure$height[filtered.measure$my.gender == 'm'& filtered.measure$my.ethnicity =
w.height.f <- filtered.measure$height[filtered.measure$my.gender == 'f'& filtered.measure$my.ethnicity =

boxplot(a.height.m, a.height.f, w.height.m, w.height.f,
main = "Boxplot of height comparision by gender",
at=c(1,2,4,5),
names=c("asian male", "asian female", "white male", "white female"),
xlab = "Height(cm)",
col = c("orange", 'red'),
border = "brown",
notch = TRUE)
```

```
## Warning in bxp(list(stats = structure(c(157.5, 162, 169, 172.72, 177.5, : some
## notches went outside hinges ('box'): maybe set notch=FALSE
```

```
a.height.m <- filtered.measure$height[filtered.measure$my.gender == 'm' & filtered.measure$my.ethnicity
a.height.f <- filtered.measure$height[filtered.measure$my.gender == 'f'& filtered.measure$my.ethnicity =
w.height.m <- filtered.measure$height[filtered.measure$my.gender == 'm'& filtered.measure$my.ethnicity =
w.height.f <- filtered.measure$height[filtered.measure$my.gender == 'f'& filtered.measure$my.ethnicity =

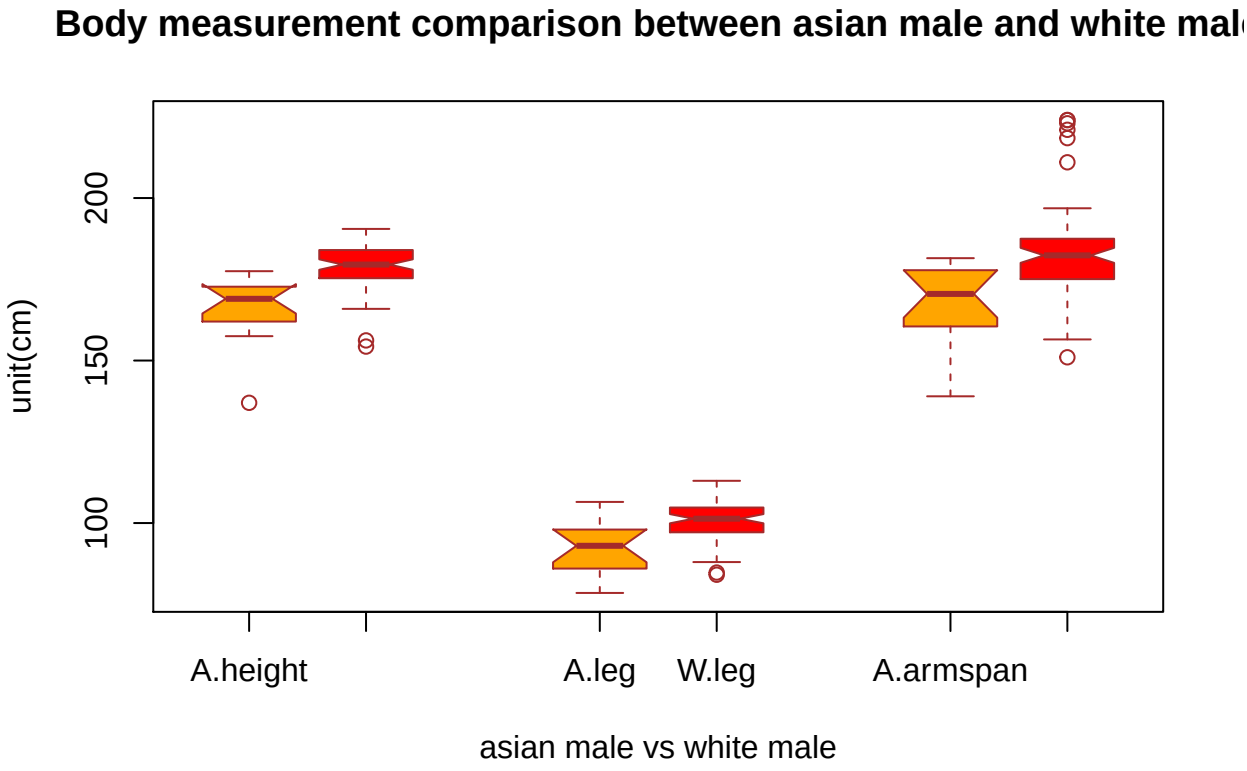
a.armspan.m <- filtered.measure$arm.span[filtered.measure$my.gender == 'm' & filtered.measure$my.ethnici
a.armspan.f <- filtered.measure$arm.span[filtered.measure$my.gender == 'f'& filtered.measure$my.ethnici
w.armspan.m <- filtered.measure$arm.span[filtered.measure$my.gender == 'm'& filtered.measure$my.ethnici
w.armspan.f <- filtered.measure$arm.span[filtered.measure$my.gender == 'f'& filtered.measure$my.ethnici

a.leg.m <- filtered.measure$floor.hip[filtered.measure$my.gender == 'm' & filtered.measure$my.ethnicity
a.leg.f <- filtered.measure$floor.hip[filtered.measure$my.gender == 'f'& filtered.measure$my.ethnicity =
w.leg.m <- filtered.measure$floor.hip[filtered.measure$my.gender == 'm'& filtered.measure$my.ethnicity =
w.leg.f <- filtered.measure$floor.hip[filtered.measure$my.gender == 'f'& filtered.measure$my.ethnicity =

boxplot(a.height.m, w.height.m, a.leg.m, w.leg.m, a.armspan.m , w.armspan.m,
main = "Body measurement comparison between asian male and white male",
at=c(1,2,4,5,7,8),
names=c("A.height","W.height","A.leg","W.leg","A.armspan","W.armspan"),
xlab = "asian male vs white male",
ylab ="unit(cm)",
col = c("orange", 'red'),
border = "brown",
notch = TRUE)
```

```
## Warning in bxp(list(stats = structure(c(157.5, 162, 169, 172.72, 177.5, : some
```

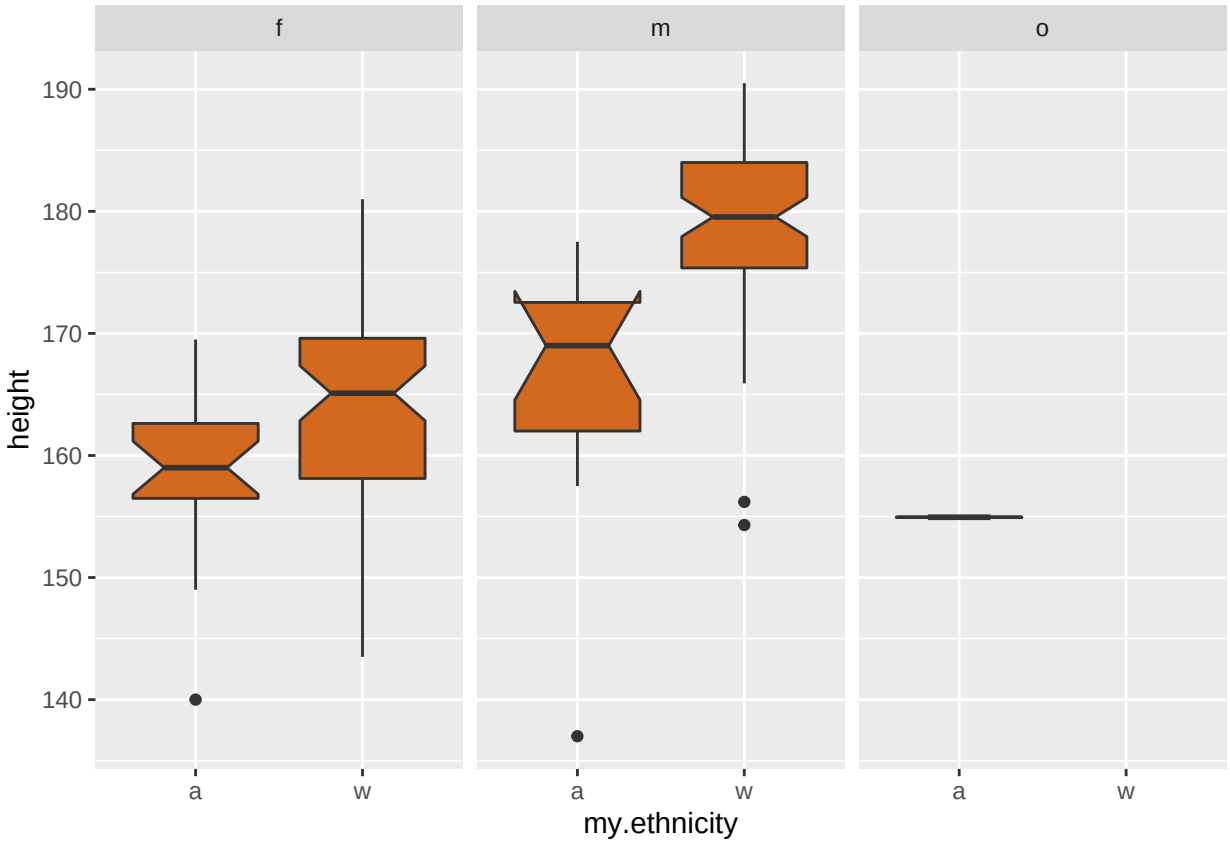
```
## notches went outside hinges ('box'): maybe set notch=FALSE
```




```
library(ggplot2)

ggplot(filtered.measure, aes(x=my.ethnicity, y=height, fill =my.gender)) +
  geom_boxplot(fill = "chocolate", notch = TRUE)+facet_wrap(~ my.gender)
```

```
## notch went outside hinges. Try setting notch=FALSE.
```




```
filtered.measure
```

```
##                         data_collector                         person_id
## 1    9c2633aaa2d945bb10608ad13c3a11a9   1cef05bce7879e0ffee01b0cb8d78c32
## 4    9c2633aaa2d945bb10608ad13c3a11a9   51e383ff163861b0e2fc71e939a5b118
## 5    9c2633aaa2d945bb10608ad13c3a11a9   6d672001f80f375570c44439c540bebf
## 6    9c2633aaa2d945bb10608ad13c3a11a9   98569fbc2cb9141f60d0ae5cfa7501cb
## 7    9c2633aaa2d945bb10608ad13c3a11a9   8d98590f4401d70a1d0a04293499b87c
## 8    9c2633aaa2d945bb10608ad13c3a11a9   a9b12538812f18facbfcbd5f2c12663b
## 9    9c2633aaa2d945bb10608ad13c3a11a9   7a87fa2f3e4e4ca864a254fef98ecdc0
## 10   9c2633aaa2d945bb10608ad13c3a11a9   8e231231fb1ab2d42c266670295eee16
## 21   6734f5f4f223d589dc4ff361a310c155   13e647076a48ced264cd8452175c2e15
## 22   6734f5f4f223d589dc4ff361a310c155   1088af35708a5b36f1d4e2bb37acdcb7
## 23   6734f5f4f223d589dc4ff361a310c155   e28999163456cff48b783a89fad8c6d9
## 24   6734f5f4f223d589dc4ff361a310c155   09933344d53a61bf9ad3fbe844e173c8
## 25   6734f5f4f223d589dc4ff361a310c155   8643d013d64405966b262a0280c0b197
## 27   6734f5f4f223d589dc4ff361a310c155   5b31d7eefd327c5296826021dd9a4c56
## 28   6734f5f4f223d589dc4ff361a310c155   bc679a3aec3b015b11b5c33673d58a31
## 29   6734f5f4f223d589dc4ff361a310c155   5ae2cd142c4d754f9cf52879c9df4fc0
## 30   6734f5f4f223d589dc4ff361a310c155   112c745f06b882dc111506a76e90a206
## 31   fd36e2b3ec59dbd996587454cbb59725   789951a2bbfbf299b0822cc8452f236f
## 34   fd36e2b3ec59dbd996587454cbb59725   9f719255d46dd8b9b07935d891dc5295
## 35   fd36e2b3ec59dbd996587454cbb59725   06101d4bde60d0ea415206d4ba04572c
## 38   fd36e2b3ec59dbd996587454cbb59725   ac11025453a44a174b69354845b985d5
## 39   fd36e2b3ec59dbd996587454cbb59725   21a0357f2ca81fcfc9e5502e6ba4c5de
## 40   fd36e2b3ec59dbd996587454cbb59725   08982a644b08fcabe920861dcf638039
```

```
## 41  fd36e2b3ec59dbd996587454cbb59725   7aa407c589c49ea3aa49224367f9aad8
## 75  c51267de031fb6d879a8abf25d260269   1c2408654ef5a2fe1fc962088312266c
## 76  c51267de031fb6d879a8abf25d260269   9b2cfcfa9664443aaa0a5cf1333c7244
## 77  c51267de031fb6d879a8abf25d260269   c45839f19cbf1437468598076cb11a1c
## 78  c51267de031fb6d879a8abf25d260269   5416d60fcbda9d702ccbcee046a3e7cb
## 79  c51267de031fb6d879a8abf25d260269   2420e28d6dd40f144e4484b856092628
## 80  c51267de031fb6d879a8abf25d260269   b4216eec77f3aaf926d1b6a1e1512c8e
## 81  c51267de031fb6d879a8abf25d260269   516c55f4541512c4672db44137aae2c8
## 83  c51267de031fb6d879a8abf25d260269   2bb88f446d3a78151df3ae67ad006e10
## 84  c51267de031fb6d879a8abf25d260269   5a4bb89464c07cc514e9f08ac6190e71
## 85  5a2f371a934f22dffcf1e994cb6eca40   3edc9028bcaab791b8790713cf82d280
## 86  5a2f371a934f22dffcf1e994cb6eca40   04b2eeaf9dcd75f5fcaeec08f76603f2
## 87  5a2f371a934f22dffcf1e994cb6eca40   c775bb281e5479508ec125fa644ff065
## 89  5a2f371a934f22dffcf1e994cb6eca40   c7e8ec1734c9626546d613ca12f9dc57
## 90  5a2f371a934f22dffcf1e994cb6eca40   cff864eff9ec76edf5a6606be92b33b5
## 91  5a2f371a934f22dffcf1e994cb6eca40   19e7e29d12d3eec6776a993acdfca999
## 92  5a2f371a934f22dffcf1e994cb6eca40   35d830aeb7087089a94bd6f4c2119268
## 93  5a2f371a934f22dffcf1e994cb6eca40   df2f92f65e0119382722048c0fe1aaa9
## 96  5a2f371a934f22dffcf1e994cb6eca40   a7ca986d375e45fe72aa5b043c0d207e
## 97  253a0d24ddff7cbe1b9f621870d9d198   ac56ebdc4dda8269a4a2b52a1d6c7850
## 107 feaa341d33cedb0f4f7ec731c84e5ba9   be2c146782bc42ee8a28929e2caae9ba
## 108 feaa341d33cedb0f4f7ec731c84e5ba9   852e3c313e43b1ae48f3d6bb0a6469d3
## 109 feaa341d33cedb0f4f7ec731c84e5ba9   150f21419f5bb180fd931e2fa8640a70
## 117 4258362c2bb0d1f95b05ba2bb2e71be9   cee86ca062c513efc86eb507151fbc09
## 118 4258362c2bb0d1f95b05ba2bb2e71be9   4733a44073c81970cccbca6e1ede188b
## 126 4258362c2bb0d1f95b05ba2bb2e71be9   5052688170956343ecf8371c9921c6be
## 227 5a96f81207a7a619ea2574c7e86cda93   cdfdf4d1cb331c85c789c7401a88d6b3
## 228 5a96f81207a7a619ea2574c7e86cda93   9bca8c56351df29d833cbf3ebcb180a1
## 232 5a96f81207a7a619ea2574c7e86cda93   df09e9a8368e050f75a6f2aa89c2c54c
## 233 5a96f81207a7a619ea2574c7e86cda93   d35f30a55820eb88b89350618eb3a171
## 234 5a96f81207a7a619ea2574c7e86cda93   0a02f10d313ea98a111c9e8323ed385e
## 236 5a96f81207a7a619ea2574c7e86cda93   3409c695fd39d4511ed3dd3d9fa3436f
## 239 a7380c7fdd4f9c977a007c003e42deb8   bd1d7b0809e4b4ee9ca307aa5308ea6f
## 240 a7380c7fdd4f9c977a007c003e42deb8   df3939f11965e7e75dbc046cd9af1c67
## 241 a7380c7fdd4f9c977a007c003e42deb8   dee1225ded7171820b3b974f86164a65
## 242 a7380c7fdd4f9c977a007c003e42deb8   aad627aedbaec238fd7f74e3aa3385e5
## 243 a7380c7fdd4f9c977a007c003e42deb8   571163a3f76efb73cd125ef35b44ea4d
## 244 a7380c7fdd4f9c977a007c003e42deb8   3a444f015555e4667dec80fd853a5033
## 277 00b0bc50a5d4c23ebdac6e69cebf284d   cb216e6502316d1466d79b4a18b540cf
## 278 07455b8d275697db40dab95a03f3c208   be6fbe0a469c8ba8b4f2c44e0fe6304d
## 279 21130e0e97a7ce7afdd817c223e9ac64   ca9ff114ef0294d44570b2f047017c45
## 280 07455b8d275697db40dab95a03f3c208   d461230a8b9f2893ad1ec16580afbeb2
## 281 00b0bc50a5d4c23ebdac6e69cebf284d   47216f67cbc4c6ce2dc9d6e41550496d
## 282 00b0bc50a5d4c23ebdac6e69cebf284d   b7d7985212d1c5dad1b63a7d529ce904
## 284 cc97268e16b656d42336d456432e1925   c7d12fe45546c973922880529fa8edae
## 285 391737a84a55fb3fc6b1f3e5789cd077   f7c4fadae08200bc74b0fe5368741290
## 297 58056c4dc037cb0dbba1ad30215034da   2cb006f5af92908e10f658a662e1d5dc
## 298 58056c4dc037cb0dbba1ad30215034da   5b6caf13d5494dbcf97f7cbc08fb4474
## 299 58056c4dc037cb0dbba1ad30215034da   25e38df28480f96f016e14a314fe3c78
## 300 58056c4dc037cb0dbba1ad30215034da   c2a09d55305b52aad95a25a11f4a6e9f
## 301 58056c4dc037cb0dbba1ad30215034da   739d1aeb9df6ab5010aa49d84ffee8ed
## 302 58056c4dc037cb0dbba1ad30215034da   dcb3e11bbe723cfa77314f8e5fd010c7
## 303 58056c4dc037cb0dbba1ad30215034da   b08ccacdf72360c9419bed8e73f81fab
## 304 58056c4dc037cb0dbba1ad30215034da   d4ec69b42a38a9e3bb885e045e50861a
```

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## 305 28c6a87502875ef92990719df72796de   eb85e0caa487a9fd16fac6b15715dcf8
## 306 58056c4dc037cb0dbba1ad30215034da   ee9817b969dbd601e367e777a5de7962
## 307 e7f9de8678dd0388865077403567b45c   967282cd5d3edbae550d1c4ab643f5ce
## 308 e7f9de8678dd0388865077403567b45c   8e244595a666e4311a81757ca88371b8
## 309 e7f9de8678dd0388865077403567b45c   7902ed1386067dae936e6639ba7f85a4
## 310 e7f9de8678dd0388865077403567b45c   6ea4dc5cd6a84ef12b677bbaabc9fc6f
## 311 e7f9de8678dd0388865077403567b45c   4eec8ecba9d91f00de594fa5267d1c98
## 312 e7f9de8678dd0388865077403567b45c   49f34c755408a89228f78967771c175f
## 313 e7f9de8678dd0388865077403567b45c   aacdcaab42f85782dbafce7a5d26b4b1
## 314 e7f9de8678dd0388865077403567b45c   f1b5a149b72512dffa7774d6a793b41b
## 315 e7f9de8678dd0388865077403567b45c   15f97b6406102d4ccf285b8063f39f84
## 316 e7f9de8678dd0388865077403567b45c   0657038008ee10df1a7dc9e8b25e59a0
## 317 b7c953cb6c1f80156d72b012e64c2f5b   830b198e4dbea57bc18d39e4174bd4a4
## 318 b7c953cb6c1f80156d72b012e64c2f5b   839d0778a7469b85de24947ff78d9c15
## 319 b7c953cb6c1f80156d72b012e64c2f5b   d001d856ebdf0decd03d46283237d5d4
## 320 b7c953cb6c1f80156d72b012e64c2f5b   ce9d8ffcc3b2509bdf8bee1e4787b014
## 322 b7c953cb6c1f80156d72b012e64c2f5b   dfe7ac4bf28ba478a59850d3ca63ceb3
## 323 b7c953cb6c1f80156d72b012e64c2f5b   fe37167d943dc7ea355615ecf8c775f9
## 324 b7c953cb6c1f80156d72b012e64c2f5b   a815dbe596b632b4fd406210c97257d5
## 326 58056c4dc037cb0dbba1ad30215034da   7a7ad17163012c8f04322273aebfe886
## 327 7e6e6a69493f1d54a74ecdd4058ebadf   68097a6cb16bbb5dbd68f19762081469
## 328 7e6e6a69493f1d54a74ecdd4058ebadf   338c1ca2a3984271538bc74eae7bef6b
## 329 7e6e6a69493f1d54a74ecdd4058ebadf   0c5f10813c5f6befe0da412e67a6aa60
## 330 7e6e6a69493f1d54a74ecdd4058ebadf   2b5ea6f3126404c7e4eda7825bed9899
## 331 7e6e6a69493f1d54a74ecdd4058ebadf   7b57fe76c35503b0a477d287ea00b37f
## 332 7e6e6a69493f1d54a74ecdd4058ebadf   1d6fdbb06fbbf58b46d607cf1685049e
## 333 7e6e6a69493f1d54a74ecdd4058ebadf   a8e17797adc14c4a0d5e471e1c51e978
## 334 7e6e6a69493f1d54a74ecdd4058ebadf   fb0584aba84a3668a9bbf0470fba3076
## 335 7e6e6a69493f1d54a74ecdd4058ebadf   d1c3771b9b322f68e211feb06e6be920
## 338 f697d5c9213997cc167707e4f07a8da8   3036ed5a46ad4a5a95f1539c3380b842
## 339 f697d5c9213997cc167707e4f07a8da8   425f17c638540b224c07192d531bb3cb
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## 342 f697d5c9213997cc167707e4f07a8da8   6a2b00bf02f70b2f261665b44e22013a
## 343 f697d5c9213997cc167707e4f07a8da8   2fb0249a6780ecbd5fee198521790376
## 347 54da3e417c8efaddfe60f2634e0655ff   fd4c92272d5a952adf7aad11c20458e1
## 348 3278ce887bc37a4d45550d5e8a6d6828   ef1cb6e72d149b184cc241037203f60b
## 351 7e7c74a4b3543bfd71fdce2f52df44e2   5d44a032652974c3e53644945a95b126
## 353 4c2954ca87d25ecb003e253dff6485b7   1f2dfa567dcf95833eddf7aec167fec7
## 354 7e01a8e692e1c5459b716e6af849922e   1e7342845e24eb3b5b3554490da1c128
## 355 d4c40ebf6bd149deed005ca123fa3110   051a9911de7b5bbc610b76f4eda834a0
## 356 3a263ca1825c7810dd45e801c9e9f45f Â e2075474294983e013ee4dd2201c7a73
## 357 ed892caec7a86a00ec5fbefdf5f44faf   6ce9c1c0b4443b31753cd40c34000efd
## 358 ed892caec7a86a00ec5fbefdf5f44faf   b133711dfc55c6e89213c01c58d59703
## 359 ed892caec7a86a00ec5fbefdf5f44faf   807d5b3793c7e1f047818dd2611b1589
## 361 ed892caec7a86a00ec5fbefdf5f44faf   74e358b9e1b44ee6129c7eb3344ee658
## 362 ed892caec7a86a00ec5fbefdf5f44faf   99a156a62a0944ba6887b90d4fd77b15
## 363 ed892caec7a86a00ec5fbefdf5f44faf   48cebdedc0acd343de4853d8e649058d
## 364 ed892caec7a86a00ec5fbefdf5f44faf   fc45e3258bed8dcae88f0dc0b3da94df
## 365 ed892caec7a86a00ec5fbefdf5f44faf   437d461430ecc08e2d51abbcf5ce9b3c
## 366 ed892caec7a86a00ec5fbefdf5f44faf   1ef53b7d22b7e7eafc7c7524078ac709
## 367 86687ae28f9bf74f509bc9cff3e967fe   4e87b49a355ca3040c49e3f513e07a7b
## 368 86687ae28f9bf74f509bc9cff3e967fe   42cf3ac3c39863c610fd0c41888fbcf4
## 369 86687ae28f9bf74f509bc9cff3e967fe   8545c7da3bff6d5e778c19a8e759e351
```

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## 370 86687ae28f9bf74f509bc9cff3e967fe   2264bdbc3a7aae3cb9b76b698f187fcf
## 371 86687ae28f9bf74f509bc9cff3e967fe   0eeb85d58ab4b0dee8fe59e66fd1aa77
## 372 86687ae28f9bf74f509bc9cff3e967fe   1914e0a159363f777885a7f1faca745c
## 373 86687ae28f9bf74f509bc9cff3e967fe   b571d735f163b7bc0d011649a9577981
## 382 b5308193c0efcd28009d8b24742fda85   6cbfe40d341ebdb303629ddc4f360e7b
## 383 0e672b35628c692c17853f0c53986f17   5c2f639550d9c99da8a2eefb68a5f1b6
## 384 629993a0da2e6179b41e20bc5f666120   8764c922d792e1b418a3cca4f8dc01f8
## 386 448246f05cc1bd4128b33465736ceecc   89ef50937da644537ff6b0617aa19b30
## 387 18a53b0cfa2bcde3c1d12e74a2e10268   3fce10bbeef92f3fcf4937defb21c93e
## 388 18a53b0cfa2bcde3c1d12e74a2e10268   6a7c9f8d886b5f55dede69fdd6cfbd9d
## 390 18a53b0cfa2bcde3c1d12e74a2e10268   4c86080cbd757fa1edd60b453d88c744
## 391 18a53b0cfa2bcde3c1d12e74a2e10268   705374c66ddd3501ccffd1d54655411a
## 392 18a53b0cfa2bcde3c1d12e74a2e10268   0fee659d076b30c1c9fbd0ee7da70afb
## 393 18a53b0cfa2bcde3c1d12e74a2e10268   315231a7937b3434f3161307f49d491b
## 394 18a53b0cfa2bcde3c1d12e74a2e10268   9f1e5a14a0baf69bc7d5d658ddb53338
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## 396 18a53b0cfa2bcde3c1d12e74a2e10268   ce29d8c585d5abd57d61abc6d1cef92a
## 397 0185c7c2eed9d48197953305a817c8b1   0c22828099b789d62a96fc1f87928f43
## 398 0185c7c2eed9d48197953305a817c8b1   e821ba1edb9dc0a445b61d8ce702052a
## 399 0185c7c2eed9d48197953305a817c8b1   6b34fe24ac2ff8103f6fce1f0da2ef57
## 400 0185c7c2eed9d48197953305a817c8b1   0f91a4e5bcb75e278d54f8cca555cc4b
## 401 0185c7c2eed9d48197953305a817c8b1   10c7ccc7a4f0aff03c915c485565b9da
## 403 0185c7c2eed9d48197953305a817c8b1   a1361cb85be840d6a2d762c68e4910e2
## 404 0185c7c2eed9d48197953305a817c8b1   e6d9c335f6aa36754461e4dd4db30274
## 406 0185c7c2eed9d48197953305a817c8b1   5844a15e76563fedd11840fd6f40ea7b
## 407 b16ae1eae8d7351e997e8faf1f734d2c   6d7edc4358342d5ef92c052cb7c82057
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## 417 d22301490fef91bdc398d00a35c7b790   6c1a5b12d4bd24ab2966ee3f04252c40
## 418 fd540e43a7112f833051d2ed1fdbbbf0   281879078eb44eb9abee3125dfdf224a
## 419 fd540e43a7112f833051d2ed1fdbbbf0   7ec6624767095490c469559de77ae043
## 420 fd540e43a7112f833051d2ed1fdbbbf0   c943d1e478cf04dd55706758ca7307a1
## 421 59944aec47699b65f6a93c79913f64cd   87b84e65079f3a08a474971aa7f355ed
## 424 d441d1e30322901bf7caeee33f0ee9af   5d2dadc6682bf48ce49de8a5015a76bc
## 425 d441d1e30322901bf7caeee33f0ee9af   63f4ed4ecc6dd8196b024634aaba8207
##       height head.height arm.span age hand.length foot.length floor.hip
## 1   152.1000     23.0000 148.2000  21    16.95000    21.65000  87.75000
## 4   164.0000     23.0000 155.0000  23    17.00000    23.00000  88.00000
## 5   181.0000     26.0000 183.0000  23    20.00000    25.00000  99.00000
## 6   156.2000     22.5000 167.5000  63    18.35000    25.40000  96.00000
## 7   154.3000     22.5000 150.1000  59    17.05000    21.95000  89.50000
## 8   154.3000     23.0000 151.0000  23    17.00000    22.00000  88.00000
## 9   172.7000     20.0000 154.0000  20    18.00000    26.00000  96.00000
## 10  164.0000     23.0000 154.3000  26    17.00000    23.30000  88.00000
## 21  145.0000     18.8000 141.7000  87    17.00000    21.80000  88.90000
## 22  181.0000     24.3000 176.0000  30    17.90000    24.90000 105.00000
## 23  152.6000     18.3000 159.6000  60    17.20000    22.75000  90.15000
## 24  169.5000     21.0000 165.0000  20    18.35000    23.65000 103.35000
```

```
## 25  164.9000     19.1000 151.9000  47    17.20000    22.30000  99.50000
## 27  177.8000     20.5000 182.8000  26    18.60000    26.20000 102.45000
## 28  168.3000     22.2000 165.7000  27    17.20000    23.65000  95.25000
## 29  170.1000     22.5000 168.6000  26    17.15000    21.75000 101.40000
## 30  151.6000     19.9000 156.0000  61    16.30000    22.15000  95.60000
## 31  177.1650     23.4950 184.1500  38    19.20875    28.57500 104.45750
## 34  181.6100     23.4950 182.2450  36    19.84375    26.67000 108.42625
## 35  161.2900     22.8600 160.6550  36    17.46250    22.22500  97.15500
## 38  166.6875     21.9075 167.3225  35    18.17688    24.92375  95.56750
## 39  157.4800     22.2250 157.4800  52    16.35125    22.54250  93.34500
## 40  179.0700     23.1775 183.1975  59    20.32000    26.03500 106.83875
## 41  158.1150     22.2250 160.6550  57    17.30375    23.81250  95.72625
## 75  178.0000     21.0000 176.0000  47    19.25000    26.50000  93.75000
## 76  181.6100     20.3200 218.4400  22    17.78000    25.40000  99.03000
## 77  175.4000     19.6000 211.0000  23    17.05000    24.00000  95.65000
## 78  161.0000     18.0000 193.0000  20    16.00000    22.50000  88.00000
## 79  165.0000     18.5000 198.5000  52    16.00000    23.00000  90.00000
## 80  186.0000     21.0000 224.0000  61    18.00000    26.00000 101.00000
## 81  184.0000     20.5000 221.0000  25    18.00000    26.00000 100.00000
## 83  185.5000     21.0000 223.0000  26    18.00000    26.00000 101.00000
## 84  185.0000     21.0000 224.0000  22    18.00000    26.00000 101.50000
## 85  183.0000     23.0000 183.0000  21    19.50000    28.00000 106.00000
## 86  166.5000     20.5000 164.0000  20    18.00000    23.00000 100.75000
## 87  157.5000     23.0000 160.0000  23    18.00000    23.00000  82.25000
## 89  178.0000     23.0000 171.0000  54    20.00000    26.75000 100.50000
## 90  168.0000     20.0000 166.0000  61    19.50000    25.25000 102.00000
## 91  170.0000     27.0000 174.0000  20    17.75000    24.00000  94.00000
## 92  178.0000     24.0000 180.5000  22    18.50000    25.75000 100.50000
## 93  183.0000     25.0000 162.0000  23    21.00000    29.00000 103.00000
## 96  185.0000     24.0000 192.0000  57    21.00000    28.50000 113.00000
## 97  175.2600     24.1300 179.7050  35    19.49450    25.08250  93.98000
## 107 175.2600     23.4950 180.9750  21    18.87500    24.44750  97.15500
## 108 165.1000     21.5900 162.5600  21    16.51000    22.86000 101.28250
## 109 177.8000     24.7650 187.9600  21    19.68500    27.62250  98.10750
## 117 187.9600     23.4950 196.8500  46    20.32000    29.21000 104.14000
## 118 161.2900     20.3200 158.7500  44    17.78000    22.86000  92.07500
## 126 180.5000     21.5000 179.0000  26    18.75000    26.75000  98.75000
## 227 143.5000     22.0000 165.0000  24    17.00000    23.75000 100.50000
## 228 177.0000     24.0000 175.0000  27    19.00000    27.50000 101.50000
## 232 166.0000     20.0000 160.0000  51    18.75000    27.25000 100.50000
## 233 174.0000     22.0000 175.0000  28    19.00000    24.25000 103.00000
## 234 183.0000     23.0000 172.0000  30    19.00000    26.75000  95.50000
## 236 178.0000     23.0000 177.0000  19    20.00000    25.25000 103.50000
## 239 157.4800     20.0000 165.1000  41    16.50000    23.50000  94.00000
## 240 174.6250     23.5000 180.3400  45    19.50000    26.50000 103.00000
## 241 167.0000     22.0000 171.0000  30    20.00000    26.00000 102.00000
## 242 170.0000     24.0000 175.0000  33    21.00000    27.00000 105.00000
## 243 154.0000     21.0000 155.0000  21    16.60000    23.35000  96.15000
## 244 167.6400     24.0000 177.8000  21    18.00000    35.50000 101.00000
## 277 180.5000     26.5000 181.5000  29    21.50000    28.50000 100.50000
## 278 160.0000     20.0000 157.0000  57    18.00000    25.25000  96.50000
## 279 175.0000     24.0000 180.0000  50    24.00000    28.00000 104.25000
## 280 180.0000     23.0000 185.0000  24    20.50000    28.00000 101.50000
## 281 158.0000     24.5000 161.5000  23    16.50000    23.00000  97.25000
```

```
## 282 182.5000     25.0000 186.0000  23    19.00000    26.00000 108.00000
## 284 181.0000     25.5000 182.5000  56    22.00000    28.50000  95.50000
## 285 155.0000     22.0000 154.0000  56    17.50000    24.50000  94.50000
## 297 156.2100     20.3200 153.0350  28    16.51000    21.79320  88.58250
## 298 177.8000     23.4950 187.9600  27    18.83410    27.07640 102.33660
## 299 152.0825     20.9550 149.8600  61    18.98650    21.99640  86.48700
## 300 176.9364     20.9550 177.4825  61    20.95500    25.11425 100.11410
## 301 161.9250     19.0500 160.6550  54    18.41500    24.13000  93.98000
## 302 182.8800     22.8600 186.6900  55    19.05000    26.03500 107.63250
## 303 160.0200     21.1582 158.1150  63    17.78000    22.86000  86.80450
## 304 168.2750     20.5740 172.0850  28    17.78000    24.33320 102.85730
## 305 187.9600     20.3200 191.1350  27    20.00250    27.62250 104.77500
## 306 165.1000     20.9550 166.3700  36    17.78000    22.54250  96.08820
## 307 173.0000     22.0000 173.0000  23    17.75000    26.00000  96.00000
## 308 167.0000     18.0000 167.0000  25    18.00000    25.00000  94.75000
## 309 157.0000     19.0000 159.0000  50    16.50000    23.00000  88.50000
## 310 158.0000     24.0000 146.0000  94    17.00000    24.00000  89.50000
## 311 162.0000     22.5000 163.0000  72    18.50000    24.00000  96.00000
## 312 168.0000     28.0000 177.0000  72    19.00000    25.00000  93.50000
## 313 151.0000     20.0000 165.0000  76    18.00000    24.00000  95.75000
## 314 149.0000     29.0000 148.0000  68    16.50000    22.50000  93.25000
## 315 159.0000     23.0000 167.0000  75    16.75000    22.50000  93.00000
## 316 162.0000     22.5000 160.5000  77    17.75000    24.00000  98.00000
## 317 173.9900     25.0825 181.6100  27    18.89125    25.40000  89.53500
## 318 170.1800     18.4150 172.7200  58    16.51000    23.49500  96.52000
## 319 177.8000     25.4000 182.8800  52    17.78000    26.67000 105.41000
## 320 152.4000     24.1300 152.4000  53    15.87500    21.59000  87.63000
## 322 161.9250     19.6850 158.1150  61    17.46250    23.81250  79.69250
## 323 162.5600     21.5900 161.2900  68    17.78000    24.44750  90.17000
## 324 180.3400     20.3200 182.8800  69    18.41500    25.71750 102.23500
## 326 184.1500     20.9550 186.6900  30    19.05000    28.25750 104.77500
## 327 158.0000     22.0000 159.5000  62    17.00000    21.75000  92.50000
## 328 172.0000     24.0000 168.0000  68    19.50000    25.25000 100.00000
## 329 190.5000     22.2500 193.0000  36    21.00000    28.37500 105.12500
## 330 180.2500     21.5000 185.5000  42    19.87500    26.75000 109.00000
## 331 158.0000     20.5000 166.0000  33    16.75000    23.50000  84.75000
## 332 178.0000     22.0000 174.0000  34    17.50000    23.50000 102.50000
## 333 173.0000     20.0000 179.0000  36    18.25000    26.50000 100.75000
## 334 162.5000     20.3000 165.0000  38    17.40000    22.30000  96.50000
## 335 168.0000     20.0000 165.0000  40    18.00000    24.42500  91.50000
## 338 158.0000     21.5000 162.0000  23    18.00000    23.25000  88.00000
## 339 137.0000     23.0000 139.0000  31    17.50000    22.00000  78.50000
## 340 162.0000     24.0000 164.0000  60    20.25000    23.75000  86.00000
## 341 160.0000     23.0000 159.0000  52    19.00000    23.50000  83.50000
## 342 171.0000     23.0000 171.5000  64    19.00000    26.00000  96.50000
## 343 140.0000     20.0000 143.0000  47    17.00000    21.00000  79.00000
## 347 182.8800     23.4950 193.0400  25    19.05000    27.94000  99.06000
## 348 170.1800     38.1000 158.7500  26    17.46250    23.81250  90.17000
## 351 176.5300     19.0500 184.6580  58    19.93900    26.92400 107.18800
## 353 177.1650     20.9550 175.8950  24    18.41500    23.49500 100.01250
## 354 170.1800     22.8600 171.4500  28    18.41500    24.76500  92.07500
## 355 187.4520     22.2250 191.5160  59    20.82800    29.59100 112.39500
## 356 172.7200     21.5900 173.0375  28    18.41500    23.17750  98.74250
## 357 175.6000     21.0000 176.2000  21    18.40000    26.35000  94.75000
```

```
## 358 175.5000     20.0000 178.0000  22    19.90000    25.50000  93.00000
## 359 176.0000     20.5000 178.0000  58    20.05000    26.55000  94.00000
## 361 169.6000     20.6000 163.0000  51    17.00000    24.20000  89.00000
## 362 165.9000     21.0000 166.5000  53    17.80000    24.20000  84.10000
## 363 168.0000     23.0000 172.0000  21    17.00000    24.40000  87.90000
## 364 168.5000     21.0000 170.0000  55    18.90000    25.75000  91.75000
## 365 186.0000     21.5000 188.8000  56    20.00000    28.25000  96.25000
## 366 170.0000     18.5000 176.0000  22    19.00000    26.00000  93.00000
## 367 168.9000     21.5000 174.0000  28    19.00000    24.30000  96.75000
## 368 181.0000     22.8000 190.5000  38    19.70000    26.70000 103.20000
## 369 160.0000     22.0000 157.5000  28    17.20000    22.00000  91.00000
## 370 173.0000     25.0000 182.0000  29    18.90000    25.00000  98.50000
## 371 163.0000     22.0000 170.0000  63    17.10000    24.15000  92.10000
## 372 185.4000     24.3000 181.6000  32    18.40000    30.50000 101.60000
## 373 163.0000     21.0000 147.3000  29    15.00000    22.15000  91.45000
## 382 172.7200     21.5900 177.8000  22    21.59000    26.67000  82.55000
## 383 177.8000     21.5900 185.4200  21    22.22500    27.94000  84.77250
## 384 152.4000     19.6850 154.9400  22    15.87500    21.90750  84.77250
## 386 167.6400     19.6850 177.8000  19    18.41500    26.67000  87.63000
## 387 167.5000     25.0000 158.0000  21    19.50000    24.00000  95.75000
## 388 172.5000     22.5000 174.5000  25    20.00000    25.25000 101.25000
## 390 189.0000     22.0000 185.8000  23    19.75000    26.30000 110.50000
## 391 182.0000     23.5000 182.5000  21    20.40000    26.05000 113.00000
## 392 180.5000     22.0000 177.5000  20    19.70000    26.60000 107.25000
## 393 172.0850     22.8600 168.9100  55    18.41500    26.98750  97.15500
## 394 157.4800     20.3200 152.4000  53    17.78000    22.86000  88.90000
## 395 154.9400     21.5900 152.4000  20    18.41500    21.59000  83.18500
## 396 177.5000     24.0000 181.5000  26    19.35000    25.50000 106.50000
## 397 185.0000     23.0000 196.0000  28    19.00000    27.00000 103.00000
## 398 188.0000     22.5000 187.0000  25    19.50000    26.00000 101.00000
## 399 184.0000     24.0000 183.0000  24    21.00000    26.00000 105.50000
## 400 173.0000     22.0000 173.0000  50    17.00000    24.00000  99.00000
## 401 178.0000     24.0000 183.0000  52    21.00000    27.00000 101.00000
## 403 184.5000     24.0000 190.5000  21    20.00000    28.00000  95.75000
## 404 165.0000     23.0000 167.5000  27    18.00000    23.75000  99.00000
## 406 158.0000     23.0000 163.0000  25    17.00000    23.00000  96.00000
## 407 163.8000     20.8000 171.4000  22    17.35000    22.65000  91.25000
## 408 167.6000     21.0000 165.8000  25    17.35000    21.85000  99.85000
## 409 166.9000     20.8000 157.2260  25    16.85000    22.15000  92.05000
## 410 160.2000     21.5900 161.5000  55    17.75000    38.75000  96.75000
## 411 189.4000     21.3000 175.1000  55    19.30000    28.90000 101.10000
## 412 165.7000     21.7000 163.6000  22    15.25000    21.75000  98.60000
## 413 166.6000     20.1000 169.7000  22    16.45000    24.15000  90.65000
## 414 176.8000     20.1000 175.3000  21    16.65000    25.65000  87.80000
## 416 172.2000     19.1000 173.4000  26    17.60000    24.90000  91.70000
## 417 188.0000     24.5000 156.5000  53    20.25000    28.75000 112.50000
## 418 170.1800     25.4000 171.5000  53    18.75000    22.25000  92.75000
## 419 154.9400     20.9550 154.9400  49    19.59250    24.38400  93.24000
## 420 164.4650     20.9550 161.2900  20    18.57375    21.59000  94.79000
## 421 177.8000     22.8600 185.4200  40    20.00250    27.62250 110.49000
## 424 176.5300     21.5900 180.3400  43    19.68500    25.40000 101.28250
## 425 171.4500     20.3200 170.1800  42    17.78000    24.13000  95.88500
##     my.ethnicity my.gender new.units height/height head.height/height
## 1              w         f        cm             1          0.1512163
```

```
## 4          w       f       cm          1       0.1402439
## 5          w       f       cm          1       0.1436464
## 6          w       m       cm          1       0.1440461
## 7          w       f       cm          1       0.1458198
## 8          w       m       cm          1       0.1490603
## 9          w       f       cm          1       0.1158078
## 10         w       f       cm          1       0.1402439
## 21         w       f       cm          1       0.1296552
## 22         w       m       cm          1       0.1342541
## 23         w       f       cm          1       0.1199214
## 24         a       f       cm          1       0.1238938
## 25         w       f       cm          1       0.1158278
## 27         w       m       cm          1       0.1152981
## 28         w       f       cm          1       0.1319073
## 29         w       m       cm          1       0.1322751
## 30         w       f       cm          1       0.1312665
## 31         w       m       cm          1       0.1326165
## 34         w       m       cm          1       0.1293706
## 35         w       f       cm          1       0.1417323
## 38         w       f       cm          1       0.1314286
## 39         w       f       cm          1       0.1411290
## 40         w       m       cm          1       0.1294326
## 41         w       f       cm          1       0.1405622
## 75         w       m       cm          1       0.1179775
## 76         w       m       cm          1       0.1118881
## 77         w       m       cm          1       0.1117446
## 78         w       f       cm          1       0.1118012
## 79         w       f       cm          1       0.1121212
## 80         w       m       cm          1       0.1129032
## 81         w       m       cm          1       0.1114130
## 83         w       m       cm          1       0.1132075
## 84         w       m       cm          1       0.1135135
## 85         w       m       cm          1       0.1256831
## 86         w       f       cm          1       0.1231231
## 87         a       m       cm          1       0.1460317
## 89         w       m       cm          1       0.1292135
## 90         w       f       cm          1       0.1190476
## 91         w       f       cm          1       0.1588235
## 92         w       m       cm          1       0.1348315
## 93         w       m       cm          1       0.1366120
## 96         w       m       cm          1       0.1297297
## 97         w       m       cm          1       0.1376812
## 107        w       m       cm          1       0.1340580
## 108        w       f       cm          1       0.1307692
## 109        w       m       cm          1       0.1392857
## 117        w       m       cm          1       0.1250000
## 118        a       f       cm          1       0.1259843
## 126        w       m       cm          1       0.1191136
## 227        w       f       cm          1       0.1533101
## 228        w       m       cm          1       0.1355932
## 232        w       f       cm          1       0.1204819
## 233        w       f       cm          1       0.1264368
## 234        w       m       cm          1       0.1256831
## 236        w       m       cm          1       0.1292135
```

```
## 239          w          f          cm          1          0.1270003
## 240          w          m          cm          1          0.1345741
## 241          w          f          cm          1          0.1317365
## 242          w          m          cm          1          0.1411765
## 243          a          f          cm          1          0.1363636
## 244          w          f          cm          1          0.1431639
## 277          w          m          cm          1          0.1468144
## 278          w          f          cm          1          0.1250000
## 279          w          m          cm          1          0.1371429
## 280          w          m          cm          1          0.1277778
## 281          w          f          cm          1          0.1550633
## 282          w          m          cm          1          0.1369863
## 284          w          m          cm          1          0.1408840
## 285          w          f          cm          1          0.1419355
## 297          w          f          cm          1          0.1300813
## 298          w          m          cm          1          0.1321429
## 299          w          f          cm          1          0.1377871
## 300          w          m          cm          1          0.1184324
## 301          w          f          cm          1          0.1176471
## 302          w          m          cm          1          0.1250000
## 303          w          f          cm          1          0.1322222
## 304          w          f          cm          1          0.1222642
## 305          w          m          cm          1          0.1081081
## 306          w          f          cm          1          0.1269231
## 307          a          m          cm          1          0.1271676
## 308          a          f          cm          1          0.1077844
## 309          a          f          cm          1          0.1210191
## 310          a          f          cm          1          0.1518987
## 311          a          f          cm          1          0.1388889
## 312          a          m          cm          1          0.1666667
## 313          a          f          cm          1          0.1324503
## 314          a          f          cm          1          0.1946309
## 315          a          m          cm          1          0.1446541
## 316          a          m          cm          1          0.1388889
## 317          w          m          cm          1          0.1441606
## 318          w          f          cm          1          0.1082090
## 319          w          m          cm          1          0.1428571
## 320          w          f          cm          1          0.1583333
## 322          w          f          cm          1          0.1215686
## 323          w          f          cm          1          0.1328125
## 324          w          m          cm          1          0.1126761
## 326          w          m          cm          1          0.1137931
## 327          a          f          cm          1          0.1392405
## 328          a          m          cm          1          0.1395349
## 329          w          m          cm          1          0.1167979
## 330          w          f          cm          1          0.1192788
## 331          a          f          cm          1          0.1297468
## 332          w          m          cm          1          0.1235955
## 333          a          m          cm          1          0.1156069
## 334          a          f          cm          1          0.1249231
## 335          w          m          cm          1          0.1190476
## 338          a          f          cm          1          0.1360759
## 339          a          m          cm          1          0.1678832
## 340          a          m          cm          1          0.1481481
```

```
## 341          a          f          cm          1          0.1437500
## 342          w          m          cm          1          0.1345029
## 343          a          f          cm          1          0.1428571
## 347          w          m          cm          1          0.1284722
## 348          a          m          cm          1          0.2238806
## 351          w          f          cm          1          0.1079137
## 353          w          f          cm          1          0.1182796
## 354          w          m          cm          1          0.1343284
## 355          w          m          cm          1          0.1185637
## 356          w          f          cm          1          0.1250000
## 357          w          f          cm          1          0.1195900
## 358          w          f          cm          1          0.1139601
## 359          w          f          cm          1          0.1164773
## 361          w          f          cm          1          0.1214623
## 362          w          m          cm          1          0.1265823
## 363          w          f          cm          1          0.1369048
## 364          w          f          cm          1          0.1246291
## 365          w          m          cm          1          0.1155914
## 366          a          m          cm          1          0.1088235
## 367          a          f          cm          1          0.1272943
## 368          w          m          cm          1          0.1259669
## 369          a          f          cm          1          0.1375000
## 370          w          m          cm          1          0.1445087
## 371          a          f          cm          1          0.1349693
## 372          w          m          cm          1          0.1310680
## 373          w          f          cm          1          0.1288344
## 382          a          m          cm          1          0.1250000
## 383          w          m          cm          1          0.1214286
## 384          w          f          cm          1          0.1291667
## 386          a          m          cm          1          0.1174242
## 387          w          m          cm          1          0.1492537
## 388          w          m          cm          1          0.1304348
## 390          w          m          cm          1          0.1164021
## 391          w          m          cm          1          0.1291209
## 392          w          m          cm          1          0.1218837
## 393          w          m          cm          1          0.1328413
## 394          w          f          cm          1          0.1290323
## 395          a          o          cm          1          0.1393443
## 396          a          m          cm          1          0.1352113
## 397          w          m          cm          1          0.1243243
## 398          w          m          cm          1          0.1196809
## 399          w          m          cm          1          0.1304348
## 400          w          f          cm          1          0.1271676
## 401          w          m          cm          1          0.1348315
## 403          w          m          cm          1          0.1300813
## 404          w          f          cm          1          0.1393939
## 406          w          f          cm          1          0.1455696
## 407          w          f          cm          1          0.1269841
## 408          w          f          cm          1          0.1252983
## 409          w          f          cm          1          0.1246255
## 410          w          f          cm          1          0.1347690
## 411          w          m          cm          1          0.1124604
## 412          w          f          cm          1          0.1309596
## 413          w          f          cm          1          0.1206483
```

```
## 414            w         f        cm             1          0.1136878
## 416            w         f        cm             1          0.1109175
## 417            w         m        cm             1          0.1303191
## 418            w         m        cm             1          0.1492537
## 419            a         f        cm             1          0.1352459
## 420            a         f        cm             1          0.1274131
## 421            w         m        cm             1          0.1285714
## 424            w         m        cm             1          0.1223022
## 425            w         f        cm             1          0.1185185
##     arm.span/height hand.length/height foot.length/height floor.hip/height
## 1         0.9743590         0.11143984          0.1423406        0.5769231
## 4         0.9451220         0.10365854          0.1402439        0.5365854
## 5         1.0110497         0.11049724          0.1381215        0.5469613
## 6         1.0723431         0.11747759          0.1626120        0.6145967
## 7         0.9727803         0.11049903          0.1422553        0.5800389
## 8         0.9786131         0.11017498          0.1425794        0.5703176
## 9         0.8917197         0.10422698          0.1505501        0.5558772
## 10        0.9408537         0.10365854          0.1420732        0.5365854
## 21        0.9772414         0.11724138          0.1503448        0.6131034
## 22        0.9723757         0.09889503          0.1375691        0.5801105
## 23        1.0458716         0.11271298          0.1490826        0.5907602
## 24        0.9734513         0.10825959          0.1395280        0.6097345
## 25        0.9211643         0.10430564          0.1352335        0.6033960
## 27        1.0281215         0.10461192          0.1473566        0.5762092
## 28        0.9845514         0.10219846          0.1405229        0.5659537
## 29        0.9911817         0.10082305          0.1278660        0.5961199
## 30        1.0290237         0.10751979          0.1461082        0.6306069
## 31        1.0394265         0.10842294          0.1612903        0.5896057
## 34        1.0034965         0.10926573          0.1468531        0.5970280
## 35        0.9960630         0.10826772          0.1377953        0.6023622
## 38        1.0038095         0.10904762          0.1495238        0.5733333
## 39        1.0000000         0.10383065          0.1431452        0.5927419
## 40        1.0230496         0.11347518          0.1453901        0.5966312
## 41        1.0160643         0.10943775          0.1506024        0.6054217
## 75        0.9887640         0.10814607          0.1488764        0.5266854
## 76        1.2027972         0.09790210          0.1398601        0.5452894
## 77        1.2029647         0.09720639          0.1368301        0.5453250
## 78        1.1987578         0.09937888          0.1397516        0.5465839
## 79        1.2030303         0.09696970          0.1393939        0.5454545
## 80        1.2043011         0.09677419          0.1397849        0.5430108
## 81        1.2010870         0.09782609          0.1413043        0.5434783
## 83        1.2021563         0.09703504          0.1401617        0.5444744
## 84        1.2108108         0.09729730          0.1405405        0.5486486
## 85        1.0000000         0.10655738          0.1530055        0.5792350
## 86        0.9849850         0.10810811          0.1381381        0.6051051
## 87        1.0158730         0.11428571          0.1460317        0.5222222
## 89        0.9606742         0.11235955          0.1502809        0.5646067
## 90        0.9880952         0.11607143          0.1502976        0.6071429
## 91        1.0235294         0.10441176          0.1411765        0.5529412
## 92        1.0140449         0.10393258          0.1446629        0.5646067
## 93        0.8852459         0.11475410          0.1584699        0.5628415
## 96        1.0378378         0.11351351          0.1540541        0.6108108
## 97        1.0253623         0.11123188          0.1431159        0.5362319
## 107       1.0326087         0.10769714          0.1394928        0.5543478
```

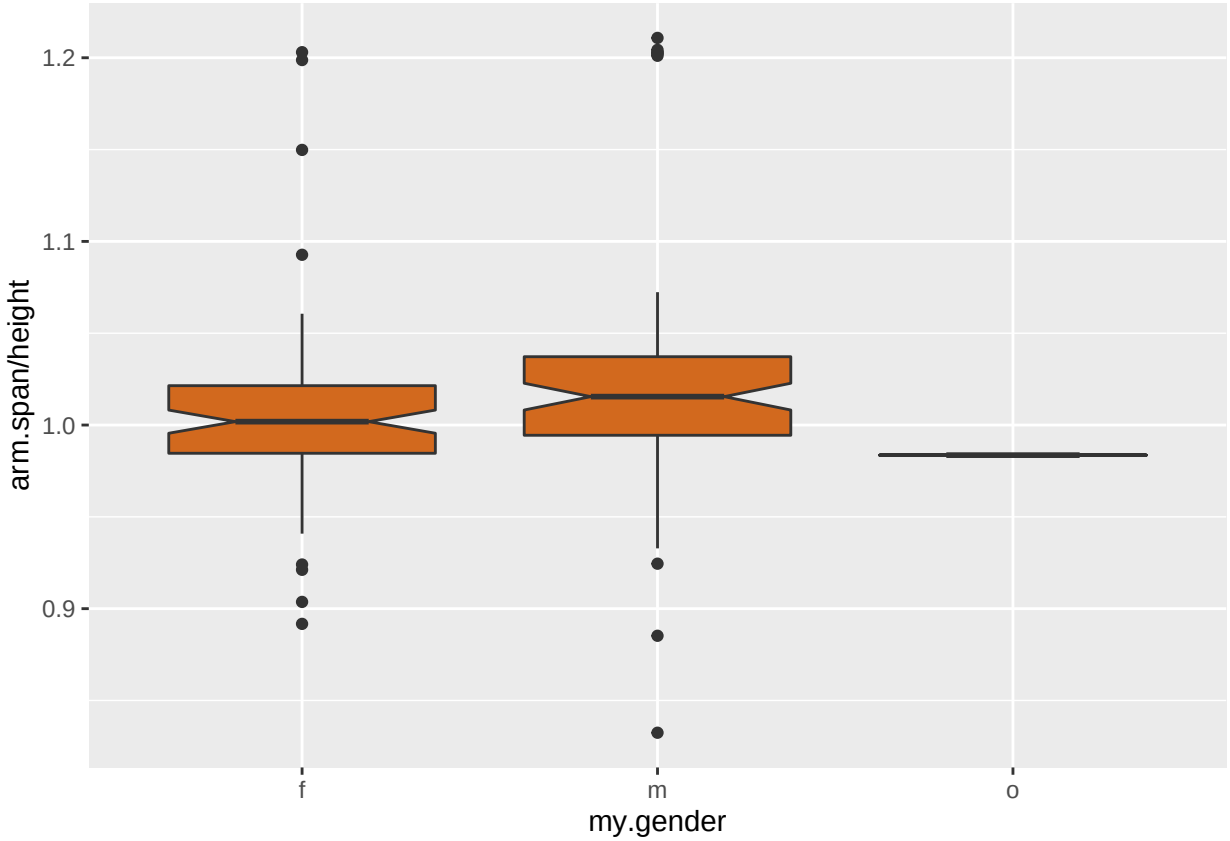
```
## 108      0.9846154       0.10000000      0.1384615       0.6134615
## 109      1.0571429       0.11071429      0.1553571       0.5517857
## 117      1.0472973       0.10810811      0.1554054       0.5540541
## 118      0.9842520       0.11023622      0.1417323       0.5708661
## 126      0.9916898       0.10387812      0.1481994       0.5470914
## 227      1.1498258       0.11846690      0.1655052       0.7003484
## 228      0.9887006       0.10734463      0.1553672       0.5734463
## 232      0.9638554       0.11295181      0.1641566       0.6054217
## 233      1.0057471       0.10919540      0.1393678       0.5919540
## 234      0.9398907       0.10382514      0.1461749       0.5218579
## 236      0.9943820       0.11235955      0.1418539       0.5814607
## 239      1.0483871       0.10477521      0.1492253       0.5969012
## 240      1.0327273       0.11166786      0.1517538       0.5898354
## 241      1.0239521       0.11976048      0.1556886       0.6107784
## 242      1.0294118       0.12352941      0.1588235       0.6176471
## 243      1.0064935       0.10779221      0.1516234       0.6243506
## 244      1.0606061       0.10737294      0.2117633       0.6024815
## 277      1.0055402       0.11911357      0.1578947       0.5567867
## 278      0.9812500       0.11250000      0.1578125       0.6031250
## 279      1.0285714       0.13714286      0.1600000       0.5957143
## 280      1.0277778       0.11388889      0.1555556       0.5638889
## 281      1.0221519       0.10443038      0.1455696       0.6155063
## 282      1.0191781       0.10410959      0.1424658       0.5917808
## 284      1.0082873       0.12154696      0.1574586       0.5276243
## 285      0.9935484       0.11290323      0.1580645       0.6096774
## 297      0.9796748       0.10569106      0.1395122       0.5670732
## 298      1.0571429       0.10592857      0.1522857       0.5755714
## 299      0.9853862       0.12484342      0.1446347       0.5686848
## 300      1.0030864       0.11843239      0.1419394       0.5658197
## 301      0.9921569       0.11372549      0.1490196       0.5803922
## 302      1.0208333       0.10416667      0.1423611       0.5885417
## 303      0.9880952       0.11111111      0.1428571       0.5424603
## 304      1.0226415       0.10566038      0.1446038       0.6112453
## 305      1.0168919       0.10641892      0.1469595       0.5574324
## 306      1.0076923       0.10769231      0.1365385       0.5820000
## 307      1.0000000       0.10260116      0.1502890       0.5549133
## 308      1.0000000       0.10778443      0.1497006       0.5673653
## 309      1.0127389       0.10509554      0.1464968       0.5636943
## 310      0.9240506       0.10759494      0.1518987       0.5664557
## 311      1.0061728       0.11419753      0.1481481       0.5925926
## 312      1.0535714       0.11309524      0.1488095       0.5565476
## 313      1.0927152       0.11920530      0.1589404       0.6341060
## 314      0.9932886       0.11073826      0.1510067       0.6258389
## 315      1.0503145       0.10534591      0.1415094       0.5849057
## 316      0.9907407       0.10956790      0.1481481       0.6049383
## 317      1.0437956       0.10857664      0.1459854       0.5145985
## 318      1.0149254       0.09701493      0.1380597       0.5671642
## 319      1.0285714       0.10000000      0.1500000       0.5928571
## 320      1.0000000       0.10416667      0.1416667       0.5750000
## 322      0.9764706       0.10784314      0.1470588       0.4921569
## 323      0.9921875       0.10937500      0.1503906       0.5546875
## 324      1.0140845       0.10211268      0.1426056       0.5669014
## 326      1.0137931       0.10344828      0.1534483       0.5689655
## 327      1.0094937       0.10759494      0.1376582       0.5854430
```

## 328	0.9767442	0.11337209	0.1468023	0.5813953
## 329	1.0131234	0.11023622	0.1489501	0.5518373
## 330	1.0291262	0.11026352	0.1484050	0.6047157
## 331	1.0506329	0.10601266	0.1487342	0.5363924
## 332	0.9775281	0.09831461	0.1320225	0.5758427
## 333	1.0346821	0.10549133	0.1531792	0.5823699
## 334	1.0153846	0.10707692	0.1372308	0.5938462
## 335	0.9821429	0.10714286	0.1453869	0.5446429
## 338	1.0253165	0.11392405	0.1471519	0.5569620
## 339	1.0145985	0.12773723	0.1605839	0.5729927
## 340	1.0123457	0.12500000	0.1466049	0.5308642
## 341	0.9937500	0.11875000	0.1468750	0.5218750
## 342	1.0029240	0.11111111	0.1520468	0.5643275
## 343	1.0214286	0.12142857	0.1500000	0.5642857
## 347	1.0555556	0.10416667	0.1527778	0.5416667
## 348	0.9328358	0.10261194	0.1399254	0.5298507
## 351	1.0460432	0.11294964	0.1525180	0.6071942
## 353	0.9928315	0.10394265	0.1326165	0.5645161
## 354	1.0074627	0.10820896	0.1455224	0.5410448
## 355	1.0216802	0.11111111	0.1578591	0.5995935
## 356	1.0018382	0.10661765	0.1341912	0.5716912
## 357	1.0034169	0.10478360	0.1500569	0.5395786
## 358	1.0142450	0.11339031	0.1452991	0.5299145
## 359	1.0113636	0.11392045	0.1508523	0.5340909
## 361	0.9610849	0.10023585	0.1426887	0.5247642
## 362	1.0036166	0.10729355	0.1458710	0.5069319
## 363	1.0238095	0.10119048	0.1452381	0.5232143
## 364	1.0089021	0.11216617	0.1528190	0.5445104
## 365	1.0150538	0.10752688	0.1518817	0.5174731
## 366	1.0352941	0.11176471	0.1529412	0.5470588
## 367	1.0301954	0.11249260	0.1438721	0.5728242
## 368	1.0524862	0.10883978	0.1475138	0.5701657
## 369	0.9843750	0.10750000	0.1375000	0.5687500
## 370	1.0520231	0.10924855	0.1445087	0.5693642
## 371	1.0429448	0.10490798	0.1481595	0.5650307
## 372	0.9795038	0.09924488	0.1645092	0.5480043
## 373	0.9036810	0.09202454	0.1358896	0.5610429
## 382	1.0294118	0.12500000	0.1544118	0.4779412
## 383	1.0428571	0.12500000	0.1571429	0.4767857
## 384	1.0166667	0.10416667	0.1437500	0.5562500
## 386	1.0606061	0.10984848	0.1590909	0.5227273
## 387	0.9432836	0.11641791	0.1432836	0.5716418
## 388	1.0115942	0.11594203	0.1463768	0.5869565
## 390	0.9830688	0.10449735	0.1391534	0.5846561
## 391	1.0027473	0.11208791	0.1431319	0.6208791
## 392	0.9833795	0.10914127	0.1473684	0.5941828
## 393	0.9815498	0.10701107	0.1568266	0.5645756
## 394	0.9677419	0.11290323	0.1451613	0.5645161
## 395	0.9836066	0.11885246	0.1393443	0.5368852
## 396	1.0225352	0.10901408	0.1436620	0.6000000
## 397	1.0594595	0.10270270	0.1459459	0.5567568
## 398	0.9946809	0.10372340	0.1382979	0.5372340
## 399	0.9945652	0.11413043	0.1413043	0.5733696
## 400	1.0000000	0.09826590	0.1387283	0.5722543

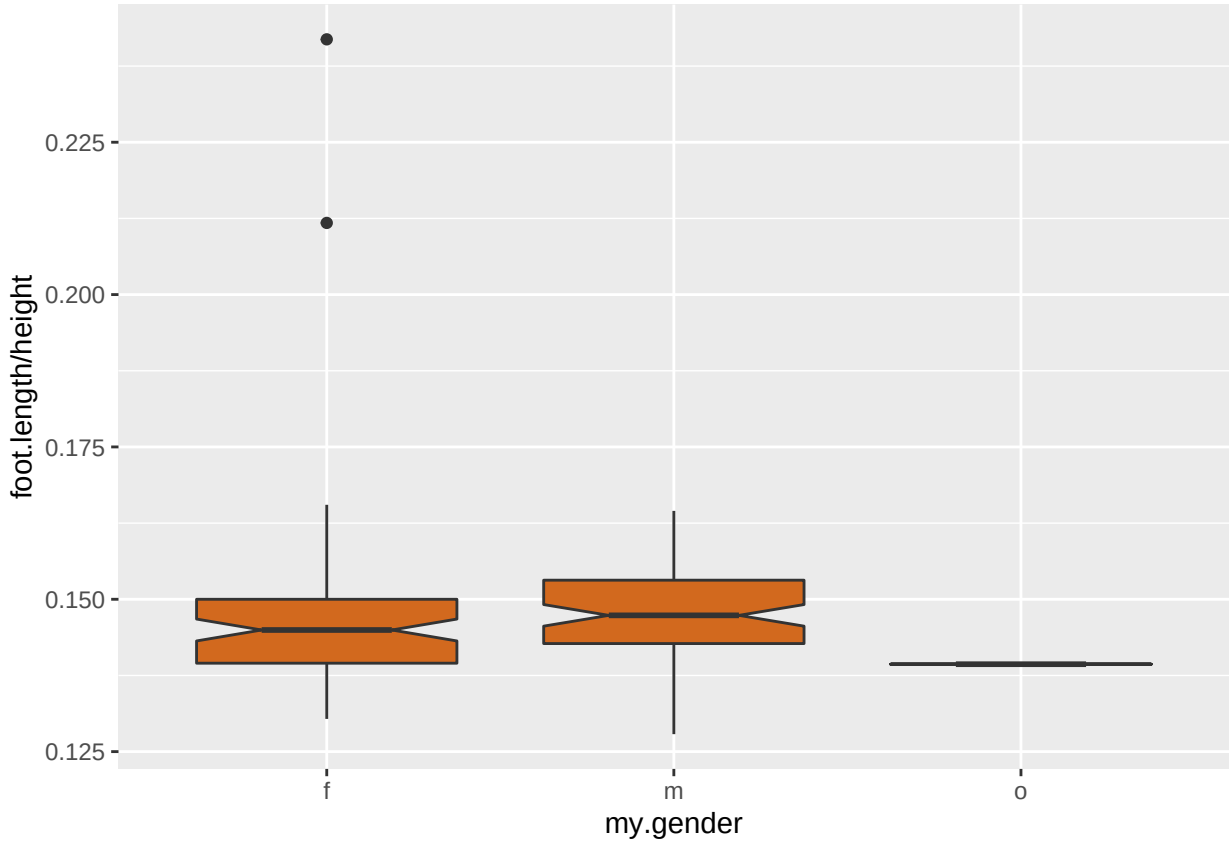
```
## 401       1.0280899       0.11797753       0.1516854       0.5674157
## 403       1.0325203       0.10840108       0.1517615       0.5189702
## 404       1.0151515       0.10909091       0.1439394       0.6000000
## 406       1.0316456       0.10759494       0.1455696       0.6075949
## 407       1.0463980       0.10592186       0.1382784       0.5570818
## 408       0.9892601       0.10352029       0.1303699       0.5957637
## 409       0.9420371       0.10095866       0.1327142       0.5515279
## 410       1.0081149       0.11079900       0.2418851       0.6039326
## 411       0.9244984       0.10190074       0.1525871       0.5337909
## 412       0.9873265       0.09203380       0.1312613       0.5950513
## 413       1.0186074       0.09873950       0.1449580       0.5441176
## 414       0.9915158       0.09417421       0.1450792       0.4966063
## 416       1.0069686       0.10220674       0.1445993       0.5325203
## 417       0.8324468       0.10771277       0.1529255       0.5984043
## 418       1.0077565       0.11017746       0.1307439       0.5450112
## 419       1.0000000       0.12645218       0.1573770       0.6017813
## 420       0.9806950       0.11293436       0.1312741       0.5763536
## 421       1.0428571       0.11250000       0.1553571       0.6214286
## 424       1.0215827       0.11151079       0.1438849       0.5737410
## 425       0.9925926       0.10370370       0.1407407       0.5592593
```

```
ggplot(filtered.measure, aes(x=my.gender, y= floor.hip/height)) +
  geom_boxplot(fill = "chocolate", notch = TRUE)
```

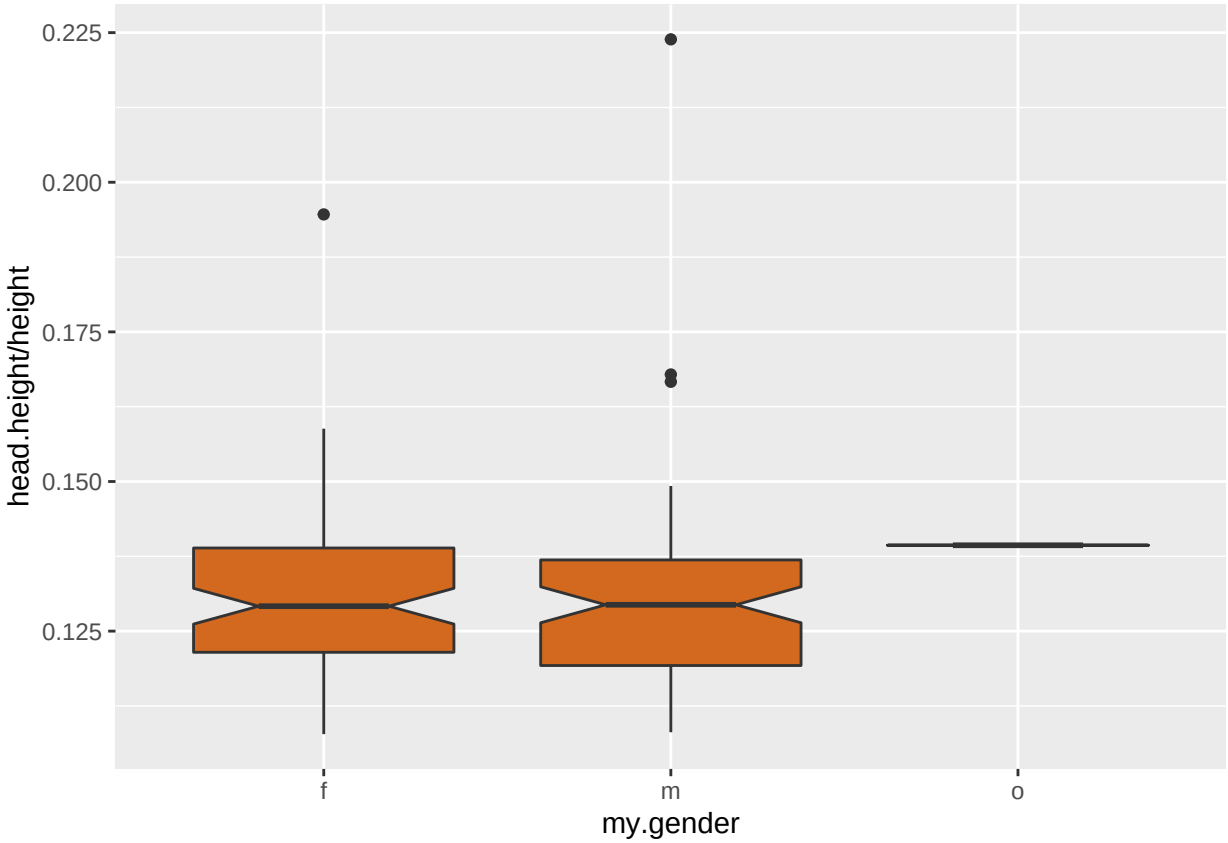
```
ggplot(filtered.measure, aes(x=my.gender, y= arm.span/height)) +
  geom_boxplot(fill = "chocolate", notch = TRUE)
```




```
ggplot(filtered.measure, aes(x=my.gender, y= foot.length/height)) +
  geom_boxplot(fill = "chocolate", notch = TRUE)
```




```
ggplot(filtered.measure, aes(x=my.gender, y= head.height/height)) +
  geom_boxplot(fill = "chocolate", notch = TRUE)
```


0.225
0.200
0.175
0.150
0.125
head.height/height
f
m
o
my.gender

ENDNOTES

REFERENCES

Becker, Richard A, John M Chambers, Allan R Wilks. 1988. *The New S Language*. Wadsworth & Brooks.

Tukey, John W. 1977. *Exploratory Data Analysis*. 1st ed. Reading, MA.

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