Gapminder Analysis

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Introduction

This is my first RMarkdown document!

Let's embed some R code

Let's load the **Gapminder** data:

```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(readr)
gm <- read_csv('../data/gapminder.csv')
```

```
## Parsed with column specification:
## cols(
##   country = col_character(),
##   continent = col_character(),
##   year = col_integer(),
##   lifeExp = col_double(),
##   pop = col_integer(),
##   gdpPercap = col_double()
## )
```

```
head(gm)
```

```
## # A tibble: 6 x 6
##   country     continent  year lifeExp      pop gdpPercap
##   <chr>       <chr>     <int>   <dbl>    <int>     <dbl>
## 1 Afghanistan Asia       1952    28.8  8425333      779.
## 2 Afghanistan Asia       1957    30.3  9240934      821.
## 3 Afghanistan Asia       1962    32.0 10267083      853.
## 4 Afghanistan Asia       1967    34.0 11537966      836.
## 5 Afghanistan Asia       1972    36.1 13079460      740.
## 6 Afghanistan Asia       1977    38.4 14880372      786.
```

```
## # A tibble: 6 x 6
##   country     continent  year lifeExp      pop gdpPercap
```

```
##   <chr>       <chr>     <int>   <dbl>    <int>     <dbl>
## 1 Afghanistan Asia       1952    28.8  8425333      779.
## 2 Afghanistan Asia       1957    30.3  9240934      821.
## 3 Afghanistan Asia       1962    32.0 10267083      853.
## 4 Afghanistan Asia       1967    34.0 11537966      836.
## 5 Afghanistan Asia       1972    36.1 13079460      740.
## 6 Afghanistan Asia       1977    38.4 14880372      786.
## # A tibble: 6 x 6
##   country  continent  year lifeExp      pop gdpPercap
##   <chr>    <chr>     <int>   <dbl>    <int>     <dbl>
## 1 Zimbabwe Africa     1982    60.4  7636524      789.
## 2 Zimbabwe Africa     1987    62.4  9216418      706.
## 3 Zimbabwe Africa     1992    60.4 10704340      693.
## 4 Zimbabwe Africa     1997    46.8 11404948      792.
## 5 Zimbabwe Africa     2002    40.0 11926563      672.
## 6 Zimbabwe Africa     2007    43.5 12311143      470.
```

```
library(knitr)
kable(head(gm))
```

country	continent	year	lifeExp	pop	gdpPercap
Afghanistan	Asia	1952	28.801	8425333	779.4453
Afghanistan	Asia	1957	30.332	9240934	820.8530
Afghanistan	Asia	1962	31.997	10267083	853.1007
Afghanistan	Asia	1967	34.020	11537966	836.1971
Afghanistan	Asia	1972	36.088	13079460	739.9811
Afghanistan	Asia	1977	38.438	14880372	786.1134

The mean life expectancy is 59.4744394 years.

The years surveyed in this data include: 1952, 1957, 1962, 1967, 1972, 1977, 1982, 1987, 1992, 1997, 2002, 2007.

Session Information

```
sessionInfo()
```

```
## R version 3.4.3 (2017-11-30)
## Platform: i386-w64-mingw32/i386 (32-bit)
## Running under: Windows 7 (build 7601) Service Pack 1
##
## Matrix products: default
##
## locale:
## [1] LC_COLLATE=English_United States.1252
## [2] LC_CTYPE=English_United States.1252
## [3] LC_MONETARY=English_United States.1252
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_United States.1252
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
```

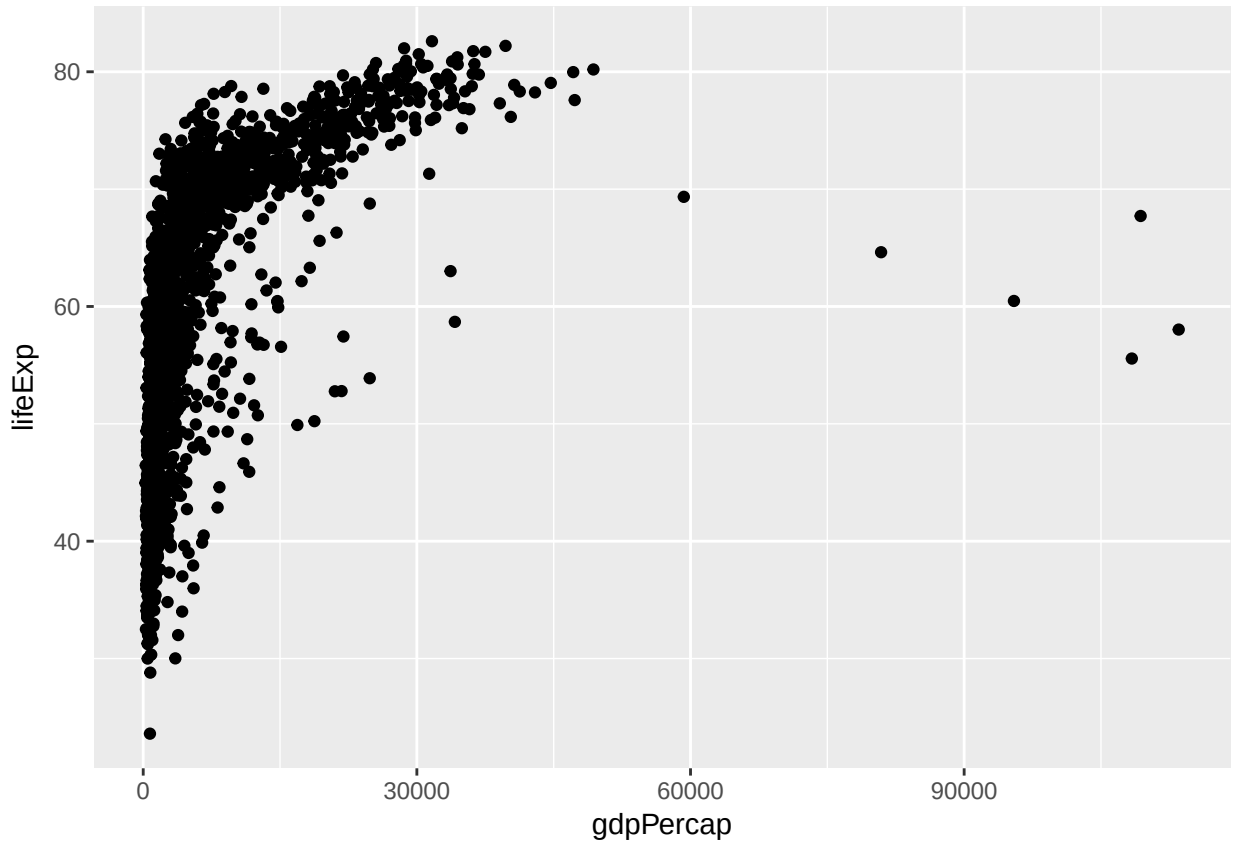

Figure 1: Life Exp vs GDP

```
##
## other attached packages:
## [1] knitr_1.20  readr_1.1.1 dplyr_0.7.4
##
## loaded via a namespace (and not attached):
##  [1] Rcpp_0.12.15     bindr_0.1        magrittr_1.5     hms_0.4.1
##  [5] R6_2.2.2         rlang_0.2.0      highr_0.6        stringr_1.3.0
##  [9] tools_3.4.3      utf8_1.1.3       cli_1.0.0        htmltools_0.3.6
## [13] yaml_2.1.18      assertthat_0.2.0 rprojroot_1.3-2  digest_0.6.15
## [17] tibble_1.4.2     crayon_1.3.4     bindrcpp_0.2     codetools_0.2-15
## [21] glue_1.2.0       evaluate_0.10.1  rmarkdown_1.9    stringi_1.1.6
## [25] compiler_3.4.3   pillar_1.2.1     backports_1.1.2  pkgconfig_2.0.1
```

Make a figure

```
library(ggplot2)
ggplot(gm, aes(gdpPercap, lifeExp)) + geom_point()
```

Figure 2: Life Exp vs GDP

Make another figure

```
library(ggplot2)
ggplot(gm, aes(gdpPercap, lifeExp)) +
geom_point() +
scale_x_log10() +
aes(col=continent)
```

Options

- echo: (TRUE by default) whether to include R source code in the output file.
- results takes several possible values:
  - markup (the default) takes the result of the R evaluation and turns it into markdown that is rendered as usual.
  - hide will hide results.
  - hold will hold all the output pieces and push them to the end of a chunk. Useful if you're running commands that result in lots of little pieces of output in the same chunk.
  - asis writes the raw results from R directly into the document. Only really useful for tables.
- include: (TRUE by default) if this is set to FALSE the R code is still evaluated, but neither the code nor the results are returned in the output document.
- fig.width, fig.height: used to control the size of graphics in the output.

```r
# R code here
```