Lesson 2: GGPlot Solutions

You and ggplot solutions

This document contains the solutions for the you and ggplot activity. You can use these solutions to check your work and ensure that your code is correct or troubleshoot your code if it is returning errors. If you haven't completed the activity yet, we suggest you go back and finish it before reading the solutions.

If you experience errors, remember that you can search the internet and the RStudio community for help: https://community.rstudio.com/#

Step 1: Import your data

The data in this example is originally from the article Hotel Booking Demand Datasets (https://www.sciencedirect.com/science/article/pii/S2352340918315191), written by Nuno Antonio, Ana Almeida, and Luis Nunes for Data in Brief, Volume 22, February 2019.

The data was downloaded and cleaned by Thomas Mock and Antoine Bichat for #TidyTuesday during the week of February 11th, 2020 (https://github.com/rfordatascience/tidytuesday/blob/master/data/2020/2020-02-11/readme.md).

You can learn more about the dataset here: https://www.kaggle.com/jessemostipak/hotel-booking-demand

In the chunk below, you will use the `read_csv()` function to import data from a .csv in the project folder called "hotel_bookings.csv" and save it as a data frame called `hotel_bookings`:

```
hotel_bookings <- read.csv("hotel_bookings.csv")
```

Step 2: Look at a sample of your data

Use the head() function to preview your data:

```
head(hotel_bookings)
```

```
##          hotel is_canceled lead_time arrival_date_year arrival_date_month
## 1 Resort Hotel           0       342              2015               July
## 2 Resort Hotel           0       737              2015               July
## 3 Resort Hotel           0         7              2015               July
## 4 Resort Hotel           0        13              2015               July
## 5 Resort Hotel           0        14              2015               July
## 6 Resort Hotel           0        14              2015               July
##   arrival_date_week_number arrival_date_day_of_month stays_in_weekend_nights
## 1                       27                         1                       0
## 2                       27                         1                       0
## 3                       27                         1                       0
## 4                       27                         1                       0
## 5                       27                         1                       0
## 6                       27                         1                       0
##   stays_in_week_nights adults children babies meal country market_segment
## 1                    0      2        0      0   BB     PRT         Direct
## 2                    0      2        0      0   BB     PRT         Direct
## 3                    1      1        0      0   BB     GBR         Direct
```

```
## 4                    1      1        0      0   BB     GBR      Corporate
## 5                    2      2        0      0   BB     GBR      Online TA
## 6                    2      2        0      0   BB     GBR      Online TA
##   distribution_channel is_repeated_guest previous_cancellations
## 1               Direct                 0                      0
## 2               Direct                 0                      0
## 3               Direct                 0                      0
## 4            Corporate                 0                      0
## 5                TA/TO                 0                      0
## 6                TA/TO                 0                      0
##   previous_bookings_not_canceled reserved_room_type assigned_room_type
## 1                              0                 C                  C
## 2                              0                 C                  C
## 3                              0                 A                  C
## 4                              0                 A                  A
## 5                              0                 A                  A
## 6                              0                 A                  A
##   booking_changes deposit_type agent company days_in_waiting_list customer_type
## 1               3   No Deposit  NULL    NULL                    0     Transient
## 2               4   No Deposit  NULL    NULL                    0     Transient
## 3               0   No Deposit  NULL    NULL                    0     Transient
## 4               0   No Deposit   304    NULL                    0     Transient
## 5               0   No Deposit   240    NULL                    0     Transient
## 6               0   No Deposit   240    NULL                    0     Transient
##   adr required_car_parking_spaces total_of_special_requests reservation_status
## 1   0                            0                         0          Check-Out
## 2   0                            0                         0          Check-Out
## 3  75                            0                         0          Check-Out
## 4  75                            0                         0          Check-Out
## 5  98                            0                         1          Check-Out
## 6  98                            0                         1          Check-Out
##   reservation_status_date
## 1              2015-07-01
## 2              2015-07-01
## 3              2015-07-02
## 4              2015-07-02
## 5              2015-07-03
## 6              2015-07-03
```

You can also use colnames() to get the names of all the columns in your data set. Run the code chunk below to find out the column names in this data set:

```
colnames(hotel_bookings)
```

```
##  [1] "hotel"                          "is_canceled"
##  [3] "lead_time"                      "arrival_date_year"
##  [5] "arrival_date_month"             "arrival_date_week_number"
##  [7] "arrival_date_day_of_month"      "stays_in_weekend_nights"
##  [9] "stays_in_week_nights"           "adults"
## [11] "children"                       "babies"
## [13] "meal"                           "country"
## [15] "market_segment"                 "distribution_channel"
## [17] "is_repeated_guest"              "previous_cancellations"
## [19] "previous_bookings_not_canceled" "reserved_room_type"
## [21] "assigned_room_type"             "booking_changes"
```

```
## [23] "deposit_type"                  "agent"
## [25] "company"                       "days_in_waiting_list"
## [27] "customer_type"                 "adr"
## [29] "required_car_parking_spaces"   "total_of_special_requests"
## [31] "reservation_status"            "reservation_status_date"
```

Step 3: Install and load the 'ggplot2' package

If you haven't already installed and loaded the `ggplot2` package, you will need to do that before you can use the `ggplot()` function.

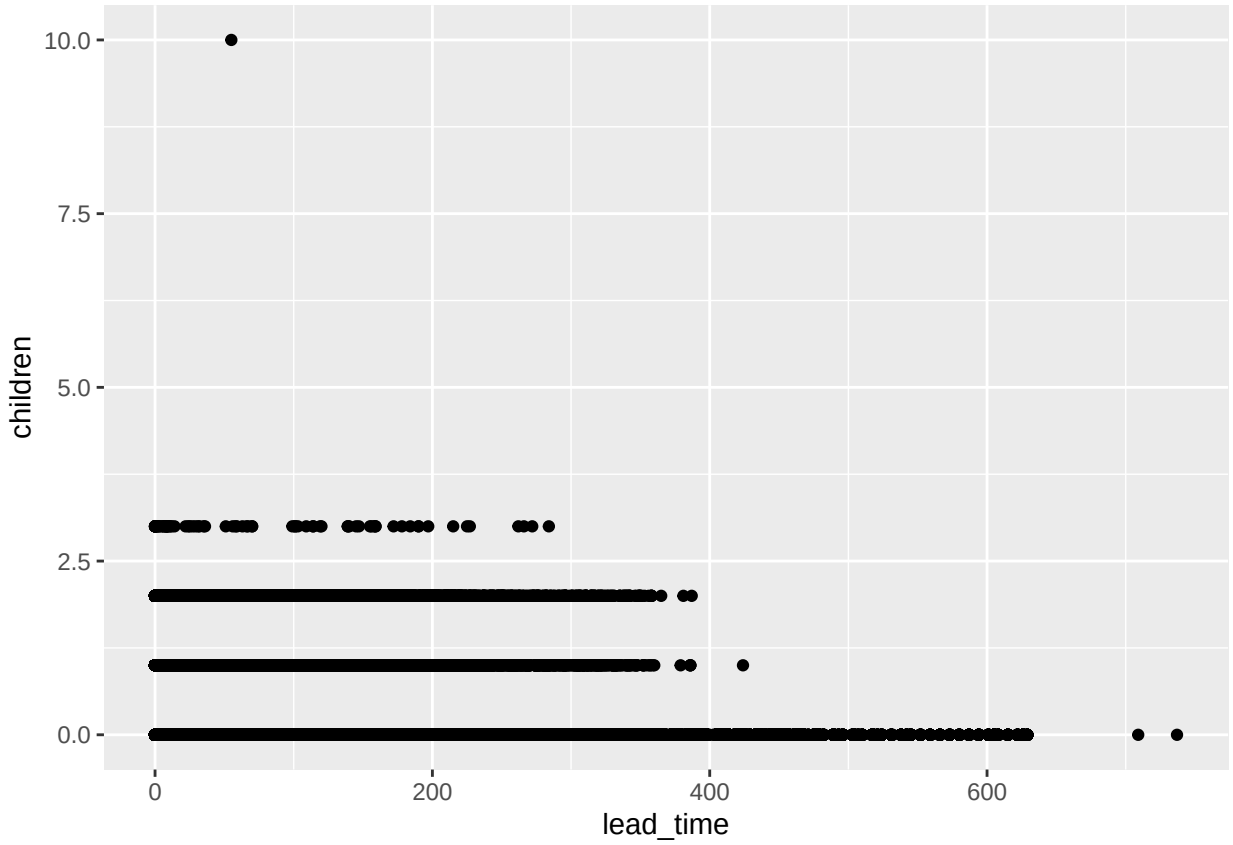
Run the code chunk below to install and load `ggplot2`. This may take a few minutes.

Step 4: Begin creating a plot

You can use `ggplot2` to determine if people with children book hotel rooms in advance. Try running the code below:

```
ggplot(data = hotel_bookings) +
  geom_point(mapping = aes(x = lead_time, y = children))
```

```
## Warning: Removed 4 rows containing missing values (`geom_point()`).
```



On the x-axis, the plot shows how far in advance a booking is made, with the bookings furthest to the right happening the most in advance. On the y-axis it shows how many children there are in a party.

Step 5: Try it on your own

Try mapping 'stays_in_weekend_nights' on the x-axis and 'children' on the y-axis by filling out the remainder of the code below:

```
ggplot(data = hotel_bookings) +
 geom_point(mapping = aes(x = stays_in_weekend_nights, y = children))
```

```
## Warning: Removed 4 rows containing missing values (`geom_point()`).
```