Final Report

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```
library(tidyverse)
```

```
## Warning in system("timedatectl", intern = TRUE): running command 'timedatectl'
## had status 1
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.5     v purrr   0.3.4
## v tibble  3.1.5     v dplyr   1.0.7
## v tidyr   1.1.4     v stringr 1.4.0
## v readr   2.0.2     v forcats 0.5.1
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(tidymodels)
```

```
## Registered S3 method overwritten by 'tune':
##   method                   from
##   required_pkgs.model_spec parsnip
```

```
## -- Attaching packages --------------------------------------- tidymodels 0.1.4 --
```

```
## v broom        0.7.9      v rsample      0.1.0
## v dials        0.0.10     v tune         0.1.6
## v infer        1.0.0      v workflows    0.2.4
## v modeldata    0.1.1      v workflowsets 0.1.0
## v parsnip      0.1.7      v yardstick    0.0.8
## v recipes      0.1.17
```

```
## -- Conflicts ------------------------------------------ tidymodels_conflicts() --
## x scales::discard() masks purrr::discard()
## x dplyr::filter()   masks stats::filter()
## x recipes::fixed()  masks stringr::fixed()
## x dplyr::lag()      masks stats::lag()
## x yardstick::spec() masks readr::spec()
## x recipes::step()   masks stats::step()
## * Use suppressPackageStartupMessages() to eliminate package startup messages
```

```
setwd('/home/guest/save-the-best-for-last')
student <- readr::read_csv("data/student-mat.csv")
```

```
## Rows: 395 Columns: 33
```

```
## -- Column specification --------------------------------------------------------
```

```
## Delimiter: ","
## chr (17): school, sex, address, famsize, Pstatus, Mjob, Fjob, reason, guardi...
## dbl (16): age, Medu, Fedu, traveltime, studytime, failures, famrel, freetime...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
student_binger <- student %>%
   mutate(binger = ifelse(sex == "F", ifelse(Dalc >= 3,1,0), ifelse(Dalc >= 4, 1, 0)))

student_binger$binger=factor(student_binger$binger,levels=c(1,0),labels=c("Yes","No"))
student_binger$binger=relevel(student_binger$binger, ref = "No")
```

```
student_logit <- student_binger %>%
  mutate(urban = ifelse(address == "U", 1, 0)) %>%
  mutate(famlarge = ifelse(famsize == "GT3", 1, 0)) %>%
  mutate(parents_together = ifelse(Pstatus == "T", 1, 0)) %>%
  mutate(mother_secondary = ifelse(Medu >= 3, 1, 0)) %>%
  mutate(father_secondary = ifelse(Fedu >= 3, 1, 0)) %>%
  mutate(school_support = ifelse(schoolsup == "yes", 1, 0)) %>%
  mutate(family_support = ifelse(famsup == "yes", 1, 0)) %>%
  mutate(extra_tutoring = ifelse(paid == "yes", 1, 0)) %>%
  mutate(alcoholic = ifelse(binger == "Yes", 1, 0))

student_logit_fit <- logistic_reg() %>%
  set_engine("glm") %>%
  fit(binger ~ urban + famlarge + parents_together + mother_secondary + father_secondary + school_suppo

tidy(student_logit_fit, conf.int=TRUE, exponentiate = TRUE)
```

```
## # A tibble: 9 x 7
##   term              estimate std.error statistic  p.value conf.low conf.high
##   <chr>                <dbl>     <dbl>     <dbl>    <dbl>    <dbl>     <dbl>
## 1 (Intercept)        0.0447     0.913   -3.41   0.000660  0.00630     0.235
## 2 urban              0.930      0.529   -0.137  0.891     0.351       2.92
## 3 famlarge           0.764      0.468   -0.576  0.565     0.312       2.00
## 4 parents_together   0.771      0.673   -0.387  0.699     0.232       3.53
## 5 mother_secondary   1.26       0.546    0.426  0.670     0.436       3.77
## 6 father_secondary   0.952      0.511   -0.0965 0.923     0.353       2.65
## 7 school_support     1.14       0.660    0.198  0.843     0.254       3.68
## 8 family_support     0.800      0.486   -0.459  0.646     0.315       2.16
## 9 extra_tutoring     3.84       0.511    2.63   0.00847   1.48       11.3
```