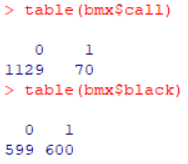
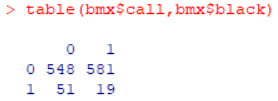
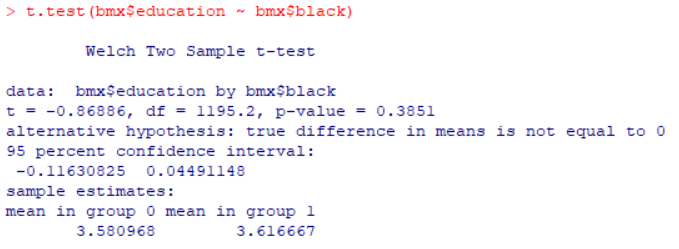
1

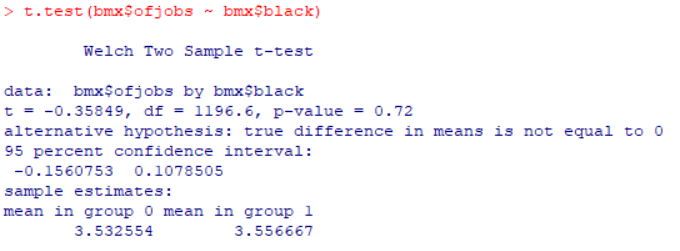
a)



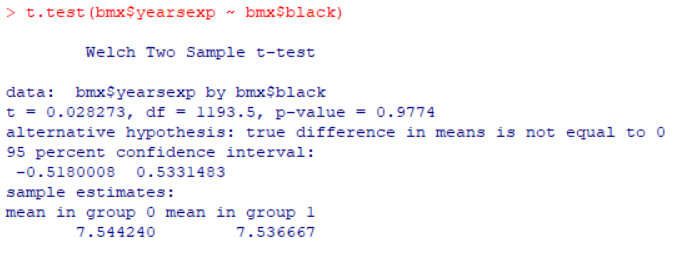
There are 600 black sounding names and 599 non-black sounding names. Out of the 600 black sounding names, only 19 received calls for an interview while 51 of the 599 non-black sounding names got interview calls. Translating these numbers into percentages, 3.27% of candidates with black-sounding names got calls while 8.514% of applicants with non-black sounding names got interview calls. The average difference in the callback rate between individuals with non-black sounding names and those with black sounding names is about 5.244%

b)

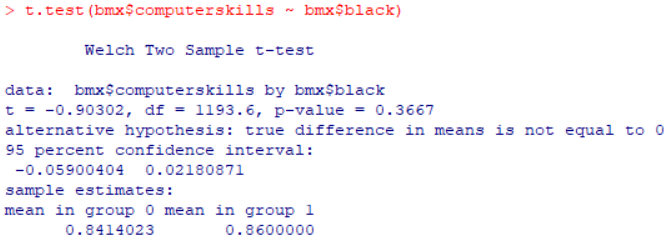


T-test for education between treatment and control groups yielded a t-statistic equal to -0.86886, df = 1195.2 and a p-value of 0.3851. As the p-value is larger than 0.1, we fail to reject the null hypothesis at 0.01, 0.05 and 0.10 levels of significance.

T-test for ofjobs (number of jobs listed on resume) between treatment and control groups yielded a t-statistic equal to -0.35849, df = 1196.6 and a p-value of 0.72. As the p-value is larger than 0.1, we fail to reject the null hypothesis at 0.01, 0.05 and 0.10 levels of significance.



T-test for yearsexp between treatment and control groups yielded a t-statistic equal to 0.028273, df = 1193.5 and a p-value of 0.9774. As the p-value is larger than 0.1, we fail to reject the null hypothesis at 0.01, 0.05 and 0.10 levels of significance.

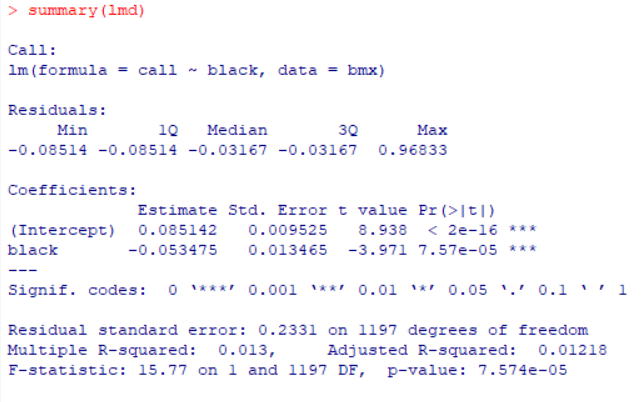


T-test for yearsexp between treatment and control groups yielded a t-statistic equal to -0.90302, df = 1193.6 and a p-value of 0.3667. As the p-value is larger than 0.1, we fail to reject the null hypothesis at 0.01, 0.05 and 0.10 levels of significance.

c)

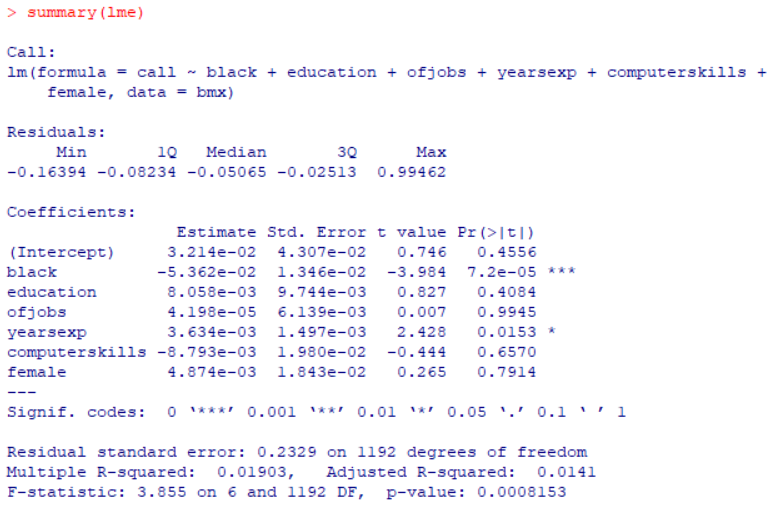
As we fail to reject the null hypotheses for the various t-tests conducted in part b, we could possible say that the 2 groups are balanced

d)



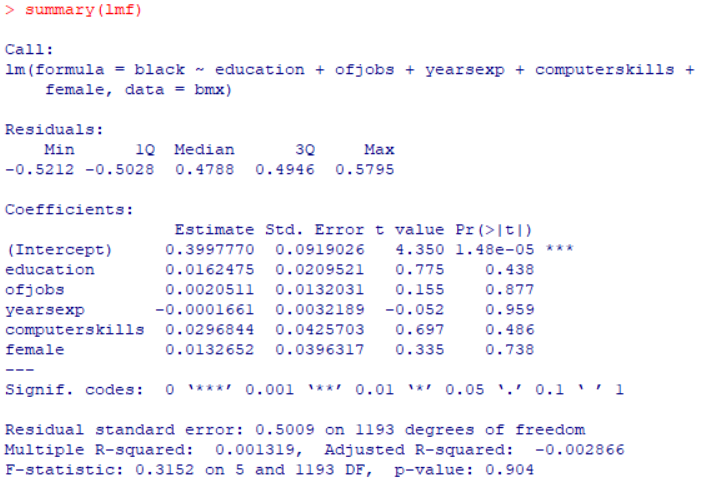
β = -0.053475 and standard error is equal to 0.013465. T-statistic = -3.971 and the associated p-value is 7.57e-05. The p-value is significant at all levels of significance ( 0.01, 0.05 and 0.10)

e)



β = -0.05362 and standard error is equal to 0.013465. T-statistic = -3.971 and the associated p-value is 7.57e-05. The p-value is significant at all levels of significance (0.01, 0.05 and 0.10)

f)



and residual standard error is equal to 0.5009 and df = 1193. F-statistic = 0.3152 and the associated p-value is 0.904. The p-value is not significant at all levels of significance (0.01, 0.05 and 0.10) and hence we can’t reject the null hypothesis at 0.1 or 0.05 or 0.01 levels of significance.

g)

Comparing the coefficients from (d) and (e), we can see that the coefficient for black is really similar in both the regression models (multiple regression and simple regression). Infact, the coefficient is more negative in the second model than the first model. This shows that being a candidate with black sounding name has a negative impact on the likelihood of getting an interview call. This was expected from part(a), as we saw that there was roughly a 5.24% difference in chances of getting an interview call for a non-black sounding name and a black sounding name candidate. Part (b) & (c) also point to this conclusion, as it was clear from part (b) that the 2 groups i.e. control and treatment group didn’t significantly differ in terms of education, number of jobs listed on resume, number of years of work experience listed on resume and whether the resume mentions computer skills. As the 2 groups were similar in the other aspects, the difference in callback rates can’t be pinned on the notion that the folks with black-sounding names were less qualified than people with non black-sounding names. Hence, we expect the coefficient of β to be negative and similar in both the regression models.

h)

If answers for part b were different, one would have expected the other factors have had a greater impact on why folks with black sounding names got fewer interview calls. Let’s take the hypothesis that the folks with black-sounding names were less qualified than people with non black-sounding names and assume part b supplied evidence to support our hypothesis. This would imply that t-tests returned results which led to rejection of null hypothesis and the two groups’ abilities (in terms of education, number of jobs listed on resume, number of years of work experience listed on resume and whether the resume mentions computer skills) differed significantly. This would have meant that the coefficient for black in second model would be smaller negative than that from the first model and the R2 of the second model would be greater than that of the first model as the difference in callback rates can be pinned on the supposition that the folks with black-sounding names were less qualified than people with non black-sounding names. The values of would be statistically significant in that case.