**HW 2**

Ying Liu

图片包含 文本

描述已自动生成

**Exercise 1**

图片包含 文本

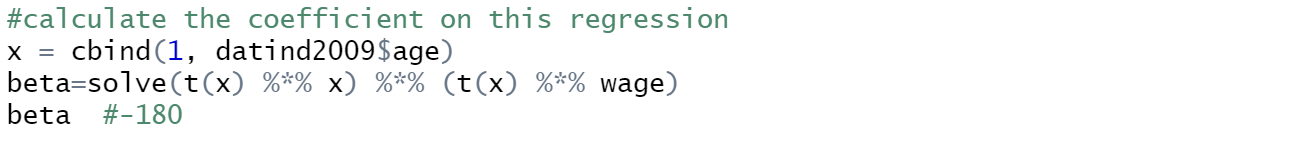
描述已自动生成

* 1. The correlation between X and Y is -0.17885





* 1. The coefficient is -180





* 1. 1) Using the standard formula, the standard error of beta is 6.968652

文本, 信件

描述已自动生成



2) Using the bootstrap with 49 and 499 replications, the standard error of beta is 6.97. The first method usually draws a sample of normal distribution. For the unknown distribution of beta, the second one can be a more reliable way.

图形用户界面, 文本

描述已自动生成

图片包含 公司名称

描述已自动生成

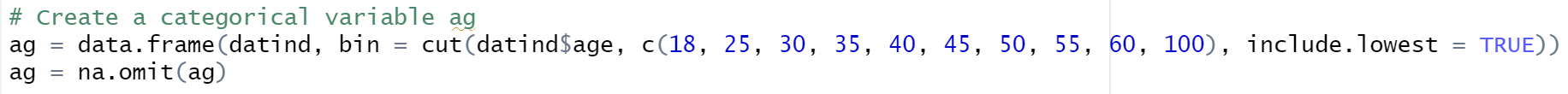
图形用户界面, 文本, 应用程序

描述已自动生成

Exercise 2

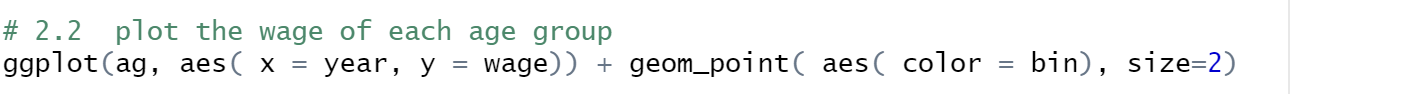
文本

描述已自动生成

2.1 

表格

描述已自动生成

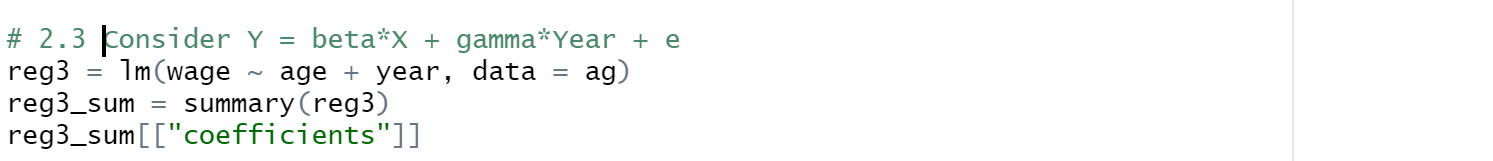
2.2 

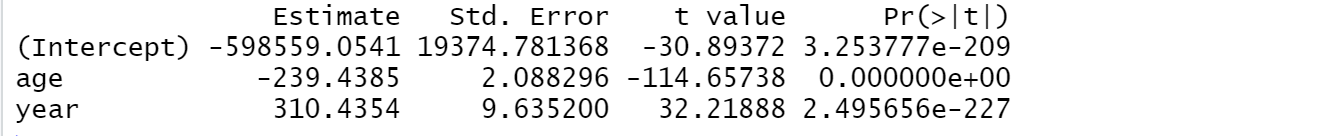
图表, 散点图

描述已自动生成

For the group of people with older age, wage goes up as the time goes; But for the group of people with younger age, wage almost stays constant across the year.

2.3





The effect of the age becomes larger after including the year.

Exercise 3

3.1 图片包含 文本

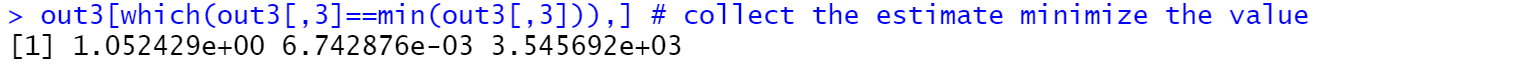
描述已自动生成

3.2 图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成

3.3 文本

描述已自动生成

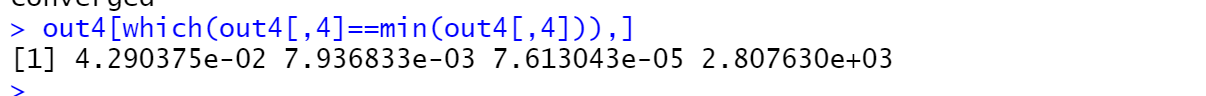


The coefficient of age is 1.0524, which is relatively small but positive, meaning that as the age grows, the person has greater probability of being employed.

3.4

图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成



The answer is no. We cannot estimate the same model including wage. Because the wage has tight relation with the age.

Exercise 4

4.1 文本, 信件

描述已自动生成

4.2

1)Probit

图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成

文本

中度可信度描述已自动生成

2)Logit

图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成

文本

中度可信度描述已自动生成

3)Linear

图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成

文本

中度可信度描述已自动生成

4.3 Firstly, let us see the coefficient of age, beta1. All the three models show that the age has a positive effect on the employment status. Secondly, for beta0, all the three models show that in 2005 people has pos*itive* probability of being employed. Thirdly, when we consider the impact of the year, we can see that probit and logit models show the relatively similar outputs.

Exercise 5

5.1

图形用户界面, 文本, 应用程序

描述已自动生成

5.2

图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成

文本, 应用程序

描述已自动生成

图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成

文本

低可信度描述已自动生成