HW3 1585107 이지인 (181030)

```
# Table 9.2.모형 (4)에서의 설명 변수중 Unemployment rate 를 빼고 재분석 합니다. logit 모형을
적합시키고 모형에서 오즈비 추정의 차이. 단, 다른 변수들은 모두 평균을 사용합니다.

pi_rat<-s46/100                                    # P/I ratio
hse_inc<-s45/100                                   # housing expense-to-income ratio
ltv<-s6/s50                                        # loan-to-value ratio
ccred<-s43                                         # consumer credit score
mcred<-s42                                         # mortgage credit score
pubrec<-s44                                        # public bad credit record
denpmi<-s53                                        # denied mortgage insurance
selfemp<-s27a                                      # self-employed
single<-ifelse(s23a=="U",1,0)
hischl<-ifelse(school>=12,1,0)                     # high school diploma
probunmp<-uria                                   # probunmp(unemployment rate)
condo<-ifelse(s51==1,1,0)                          # condominium
black<-ifelse(s13==3,1,0)
deny<-ifelse(s7==3,1,0)
ltv_med<-ifelse(ltv>=0.85 & ltv<0.95,1,0); ltv_high<-ifelse(ltv>=0.95,1,0)
blk_pi<-black*pi_rat; blk_hse<-black*hse_inc

mortdeny.data<-data.frame(pi_rat=pi_rat,hse_inc=hse_inc,ltv=ltv,ccred=ccred,mcred=mcred,p
ubrec=pubrec, denpmi=denpmi,selfemp=selfemp,single=single,hischl=hischl,probunmp=probunmp
,condo=condo,black=black,deny=deny,ltv_high=ltv_high,blk_pi=blk_pi,blk_hse=blk_hse)
colMeans(mortdeny.data); apply(mortdeny.data,2,mean)

##     pi_rat    hse_inc        ltv      ccred      mcred     pubrec
## 0.33081357 0.25534612 0.73777591 2.11638655 1.72100840 0.07352941
##     denpmi    selfemp     single     hischl   probunmp      condo
## 0.02016807 0.11638655 0.36176471 0.98361345 3.77449585 0.28823529
##      black       deny   ltv_high     blk_pi    blk_hse
## 0.14243697 0.11974790 0.03403361 0.04999382 0.03792618

##     pi_rat    hse_inc        ltv      ccred      mcred     pubrec
## 0.33081357 0.25534612 0.73777591 2.11638655 1.72100840 0.07352941
##     denpmi    selfemp     single     hischl   probunmp      condo
## 0.02016807 0.11638655 0.36176471 0.98361345 3.77449585 0.28823529
##      black       deny   ltv_high     blk_pi    blk_hse
## 0.14243697 0.11974790 0.03403361 0.04999382 0.03792618

Logit.model <- glm(deny~pi_rat+ black+ hse_inc+ ltv_med+ ltv_high+ ccred+ mcred+ pubrec+
denpmi+ selfemp+ single+ hischl, family=binomial(link="logit"),           data=mortdeny.d
ata)
odds<-coeftest(Logit.model)[3,1]; odds; exp(odds)

## [1] 0.6587446 ## [1] 1.932365

odds_sd<-coeftest(Logit.model)[3,2]
odds_L<-odds-1.96*odds_sd; odds_U<-odds+1.96*odds_sd
odds_CI<-c(odds_L,odds_U); odds_CI; exp(odds_CI)

## [1] 0.3067108 1.0107783 ## [1] 1.358948 2.747739
```