# Model Performance Comparison

| Model | RMSE | R\_Squared | MAE |
| --- | --- | --- | --- |
| Ridge | 14.26904 | 0.3877430 | 10.42348 |
| LASSO | 14.37421 | 0.3802397 | 10.49584 |
| Stepwise | 14.68507 | 0.3587386 | 10.78446 |

## Ridge Regression Coefficients

| Variable | Coefficient |
| --- | --- |
| (Intercept) | 57.640024575060444 |
| PrivateYes | 3.991310481844879 |
| Apps | 0.000699352121254 |
| Accept | 0.000385704158443 |
| Enroll | 0.000657166624280 |
| Top10perc | 0.017894980250979 |
| Top25perc | 0.158029184201666 |
| F.Undergrad | -0.000226108545392 |
| P.Undergrad | -0.001828882553342 |
| Outstate | 0.000737532146639 |
| Room.Board | 0.002141389502541 |
| Books | -0.001016616228553 |
| Personal | -0.001259366437909 |
| PhD | 0.054667489744237 |
| Terminal | -0.065513811135799 |
| S.F.Ratio | 0.011130688152232 |
| perc.alumni | 0.268547144958638 |
| Expend | -0.000030409218872 |
| Apps\_per\_Enroll | -1.124885017080048 |
| AcceptRate | -17.435779271571409 |
| Expend\_per\_Term | -0.052344313691855 |
| Interaction1 | 0.000071308593222 |
| Interaction2 | 0.000153136976565 |
| Poly\_Outstate | 0.000000008621969 |
| Log\_Room\_Board | -0.412978432209388 |

## LASSO Regression Coefficients

| Variable | Coefficient |
| --- | --- |
| (Intercept) | 53.7520021930 |
| PrivateYes | 3.7043528134 |
| Apps | 0.0010293068 |
| Accept | 0.0000000000 |
| Enroll | 0.0000000000 |
| Top10perc | 0.0000000000 |
| Top25perc | 0.1765431738 |
| F.Undergrad | -0.0001105213 |
| P.Undergrad | -0.0019444321 |
| Outstate | 0.0010912251 |
| Room.Board | 0.0020204788 |
| Books | -0.0004111630 |
| Personal | -0.0011810068 |
| PhD | 0.0446508732 |
| Terminal | -0.0642919162 |
| S.F.Ratio | 0.0000000000 |
| perc.alumni | 0.2781903676 |
| Expend | 0.0000000000 |
| Apps\_per\_Enroll | -1.3012847035 |
| AcceptRate | -17.1271688316 |
| Expend\_per\_Term | -0.0594473146 |
| Interaction1 | 0.0000000000 |
| Interaction2 | 0.0000000000 |
| Poly\_Outstate | 0.0000000000 |
| Log\_Room\_Board | 0.0000000000 |

## Iteration-wise Coefficients for Ridge Regression

| Feature | Iteration | Coefficient | Lambda |
| --- | --- | --- | --- |
| PrivateYes | s0 | 0.0000000000000000000000000000000000121251 | 9,616.508 |
| PrivateYes | s1 | 0.0225882077312531646950954922203891328536 | 9,616.508 |
| PrivateYes | s2 | 0.0247578856962305353384135031546975369565 | 9,616.508 |
| PrivateYes | s3 | 0.0271327377856527308941370080219712690450 | 9,616.508 |
| PrivateYes | s4 | 0.0297313107338696147596834862270043231547 | 9,616.508 |
| PrivateYes | s5 | 0.0325738653920030415966913039937935536727 | 9,616.508 |
| PrivateYes | s6 | 0.0356823358461594089541257801556639606133 | 9,616.508 |
| PrivateYes | s7 | 0.0390804354366435374723565132626390550286 | 9,616.508 |
| PrivateYes | s8 | 0.0427937628555014812348211705739231547341 | 9,616.508 |
| PrivateYes | s9 | 0.0468499066508972494826679167090333066881 | 9,616.508 |
| PrivateYes | s10 | 0.0512785460825341057877757577898591989651 | 9,616.508 |
| PrivateYes | s11 | 0.0561115458356111415638700634644919773564 | 9,616.508 |
| PrivateYes | s12 | 0.0613830416133800058076097627690614899620 | 9,616.508 |
| PrivateYes | s13 | 0.0671295130930816413838968514937732834369 | 9,616.508 |
| PrivateYes | s14 | 0.0733898401533728261814104598670382983983 | 9,616.508 |
| PrivateYes | s15 | 0.0802115958731517281199430158267205115408 | 9,616.508 |
| PrivateYes | s16 | 0.0876279177698364997173285928511177189648 | 9,616.508 |
| PrivateYes | s17 | 0.0956899042449788350683803628271562047303 | 9,616.508 |
| PrivateYes | s18 | 0.1044462454068273704610447794038918800652 | 9,616.508 |
| PrivateYes | s19 | 0.1139479187200582860350905889390560332686 | 9,616.508 |
| PrivateYes | s20 | 0.1242480360219404417199129397886281367391 | 9,616.508 |
| PrivateYes | s21 | 0.1354016317967219051876526236810605041683 | 9,616.508 |
| PrivateYes | s22 | 0.1474653857241598475802391021716175600886 | 9,616.508 |
| PrivateYes | s23 | 0.1604972730378133594086875746143050491810 | 9,616.508 |
| PrivateYes | s24 | 0.1745561371887693613569325634671258740127 | 8,762.204 |
| PrivateYes | s25 | 0.1897011807997820986848580560035770758986 | 8,762.204 |
| PrivateYes | s26 | 0.2059913729930542558577144518494606018066 | 8,762.204 |
| PrivateYes | s27 | 0.2234847739444392744623257840430596843362 | 8,762.204 |
| PrivateYes | s28 | 0.2422377809904261991569285328296246007085 | 8,762.204 |
| PrivateYes | s29 | 0.2623043047810590389090634744206909090281 | 8,762.204 |
| PrivateYes | s30 | 0.2837348887633273641917242002818966284394 | 8,762.204 |
| PrivateYes | s31 | 0.3065757905563049612318593517557019367814 | 8,762.204 |
| PrivateYes | s32 | 0.3308680493230856112241156097297789528966 | 8,762.204 |
| PrivateYes | s33 | 0.3566465687567089148934940112667391076684 | 8,762.204 |
| PrivateYes | s34 | 0.3839392504081215462541365468496223911643 | 8,762.204 |
| PrivateYes | s35 | 0.4127378620986339452514357617474161088467 | 8,762.204 |
| PrivateYes | s36 | 0.4431056205152588689522019649302819743752 | 8,762.204 |
| PrivateYes | s37 | 0.4750224918299718046554858119634445756674 | 8,762.204 |
| PrivateYes | s38 | 0.5084829744528301942452230832714121788740 | 8,762.204 |
| PrivateYes | s39 | 0.5434728531321011413268706746748648583889 | 8,762.204 |
| PrivateYes | s40 | 0.5799696076159264190863495969097130000591 | 8,762.204 |
| PrivateYes | s41 | 0.6179431338226937242552594398148357868195 | 8,762.204 |
| PrivateYes | s42 | 0.6573567737086281059788461789139546453953 | 8,762.204 |
| PrivateYes | s43 | 0.6981686314026694928358551806013565510511 | 8,762.204 |
| PrivateYes | s44 | 0.7403331342196037834213484529755078256130 | 8,762.204 |
| PrivateYes | s45 | 0.7838027807769888388733647843764629215002 | 8,762.204 |
| PrivateYes | s46 | 0.8285300076208224062668250553542748093605 | 8,762.204 |
| PrivateYes | s47 | 0.8744691033116414047299258527345955371857 | 8,762.204 |
| PrivateYes | s48 | 0.9215781066401690369005450520489830523729 | 7,983.794 |
| PrivateYes | s49 | 0.9698206433879552612609131756471469998360 | 7,983.794 |

## Iteration-wise Coefficients for LASSO Regression

| Feature | Iteration | Coefficient | Lambda |
| --- | --- | --- | --- |
| PrivateYes | s0 | 0.0000000 | 9.616508 |
| PrivateYes | s1 | 0.0000000 | 9.616508 |
| PrivateYes | s2 | 0.0000000 | 9.616508 |
| PrivateYes | s3 | 0.0000000 | 9.616508 |
| PrivateYes | s4 | 0.0000000 | 9.616508 |
| PrivateYes | s5 | 0.0000000 | 9.616508 |
| PrivateYes | s6 | 0.0000000 | 9.616508 |
| PrivateYes | s7 | 0.0000000 | 9.616508 |
| PrivateYes | s8 | 0.0000000 | 9.616508 |
| PrivateYes | s9 | 0.0000000 | 9.616508 |
| PrivateYes | s10 | 0.0000000 | 9.616508 |
| PrivateYes | s11 | 0.0000000 | 9.616508 |
| PrivateYes | s12 | 0.0000000 | 9.616508 |
| PrivateYes | s13 | 0.0000000 | 9.616508 |
| PrivateYes | s14 | 0.0000000 | 9.616508 |
| PrivateYes | s15 | 0.0000000 | 9.616508 |
| PrivateYes | s16 | 0.0000000 | 9.616508 |
| PrivateYes | s17 | 0.0000000 | 9.616508 |
| PrivateYes | s18 | 0.0000000 | 9.616508 |
| PrivateYes | s19 | 0.0000000 | 9.616508 |
| PrivateYes | s20 | 0.0000000 | 9.616508 |
| PrivateYes | s21 | 0.0000000 | 9.616508 |
| PrivateYes | s22 | 0.0000000 | 9.616508 |
| PrivateYes | s23 | 0.0000000 | 9.616508 |
| PrivateYes | s24 | 0.0000000 | 8.762204 |
| PrivateYes | s25 | 0.0000000 | 8.762204 |
| PrivateYes | s26 | 0.0000000 | 8.762204 |
| PrivateYes | s27 | 0.1597076 | 8.762204 |
| PrivateYes | s28 | 0.5271959 | 8.762204 |
| PrivateYes | s29 | 0.8519368 | 8.762204 |
| PrivateYes | s30 | 1.1474673 | 8.762204 |
| PrivateYes | s31 | 1.4146186 | 8.762204 |
| PrivateYes | s32 | 1.6603995 | 8.762204 |
| PrivateYes | s33 | 1.8841282 | 8.762204 |
| PrivateYes | s34 | 2.0974021 | 8.762204 |
| PrivateYes | s35 | 2.3105794 | 8.762204 |
| PrivateYes | s36 | 2.5046040 | 8.762204 |
| PrivateYes | s37 | 2.6811382 | 8.762204 |
| PrivateYes | s38 | 2.8419938 | 8.762204 |
| PrivateYes | s39 | 2.9885594 | 8.762204 |
| PrivateYes | s40 | 3.1183700 | 8.762204 |
| PrivateYes | s41 | 3.2404827 | 8.762204 |
| PrivateYes | s42 | 3.3516564 | 8.762204 |
| PrivateYes | s43 | 3.4421496 | 8.762204 |
| PrivateYes | s44 | 3.5186356 | 8.762204 |
| PrivateYes | s45 | 3.5912493 | 8.762204 |
| PrivateYes | s46 | 3.6548633 | 8.762204 |
| PrivateYes | s47 | 3.7062355 | 8.762204 |
| PrivateYes | s48 | 3.7046005 | 7.983794 |
| PrivateYes | s49 | 3.7029212 | 7.983794 |