CSGO

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April 17, 2019

## R Markdown

## Player Total.kills Headshot.. Total.deaths K.D.Ratio  
## 1 s1mple 14329 0.432 10692 1.34  
## 2 coldzera 17579 0.480 13551 1.30  
## 3 XANTARES 13491 0.540 11478 1.18  
## 4 NiKo 17386 0.505 14289 1.22  
## 5 device 17238 0.335 13722 1.26  
## 6 oskar 14881 0.296 12578 1.18  
## 7 CeRq 9720 0.276 8201 1.19  
## 8 kennyS 15603 0.314 13074 1.19  
## 9 Twistzz 12709 0.601 10826 1.17  
## 10 Magisk 15672 0.485 13386 1.17  
## 11 HEN1 9724 0.267 8020 1.21  
## 12 electronic 11332 0.514 9949 1.14  
## 13 GuardiaN 14653 0.274 12548 1.17  
## 14 huNter 8968 0.494 7986 1.12  
## 15 Calyx 8831 0.556 7577 1.17  
## 16 valde 13674 0.455 12071 1.13  
## 17 JUGi 10205 0.280 8639 1.18  
## 18 autimatic 13980 0.468 12375 1.13  
## 19 tabseN 11935 0.474 11039 1.08  
## 20 Brehze 10891 0.524 9890 1.10  
## 21 k0nfig 15515 0.554 14312 1.08  
## 22 NAF 14612 0.412 12896 1.13  
## 23 fer 16353 0.445 14875 1.10  
## 24 WorldEdit 9985 0.257 8976 1.11  
## 25 dupreeh 16530 0.507 14688 1.13  
## 26 mertz 8730 0.333 7815 1.12  
## 27 ropz 9131 0.524 8006 1.14  
## 28 allu 14354 0.281 12718 1.13  
## 29 FalleN 15413 0.300 13315 1.16  
## 30 Ethan 10600 0.494 9786 1.08  
## 31 shox 14288 0.494 13043 1.10  
## 32 suNny 14528 0.469 13422 1.08  
## 33 draken 12840 0.307 11526 1.11  
## 34 f0rest 13826 0.509 12540 1.10  
## 35 mixwell 9769 0.385 8967 1.09  
## 36 jks 11698 0.522 10604 1.10  
## 37 paz 10193 0.499 9321 1.09  
## 38 cajunb 15846 0.389 14134 1.12  
## 39 EliGE 16007 0.483 14951 1.07  
## 40 MICHU 14783 0.518 13832 1.07  
## 41 rain 15942 0.560 14964 1.07  
## 42 twist 11952 0.401 11142 1.07  
## 43 ShahZaM 11263 0.340 10342 1.09  
## 44 ScreaM 13494 0.657 12582 1.07  
## 45 nex 11576 0.528 10707 1.08  
## 46 olofmeister 13530 0.481 12484 1.08  
## 47 syrsoN 8600 0.330 7928 1.08  
## 48 Xyp9x 15372 0.407 13806 1.11  
## 49 Kjaerbye 16544 0.536 15369 1.08  
## 50 snatchie 8950 0.294 8546 1.05  
## 51 shroud 8037 0.547 7408 1.08  
## 52 flamie 13573 0.542 12705 1.07  
## 53 mou 11688 0.272 10888 1.07  
## 54 Stewie2K 14578 0.504 13984 1.04  
## 55 koosta 10071 0.340 9592 1.05  
## 56 flusha 14263 0.416 13436 1.06  
## 57 Hobbit 9401 0.463 8868 1.06  
## 58 cadiaN 9070 0.282 8413 1.08  
## 59 REZ 12561 0.492 11858 1.06  
## 60 SHiPZ 8714 0.509 8409 1.04  
## 61 KRIMZ 13641 0.402 12732 1.07  
## 62 rallen 13812 0.420 12980 1.06  
## 63 boltz 11861 0.391 11120 1.07  
## 64 felps 9649 0.445 9417 1.02  
## 65 dennis 13284 0.543 12778 1.04  
## 66 tarik 14505 0.372 14039 1.03  
## 67 JW 14861 0.373 14464 1.03  
## 68 apEX 14395 0.533 14105 1.02  
## 69 COLDYY1 9287 0.554 8822 1.05  
## 70 Lekr0 11662 0.512 11199 1.04  
## 71 SZPERO 12644 0.312 12019 1.05  
## 72 Happy 13274 0.418 12631 1.05  
## 73 Skadoodle 11819 0.245 10763 1.10  
## 74 DavCost 9335 0.324 8897 1.05  
## 75 mouz 12963 0.505 12314 1.05  
## 76 SicK 9598 0.504 9303 1.03  
## 77 Snax 13444 0.369 13009 1.03  
## 78 AdreN 12162 0.494 11996 1.01  
## 79 bubble 15311 0.399 14547 1.05  
## 80 bondik 12049 0.480 11470 1.05  
## 81 GruBy 13823 0.434 13552 1.02  
## 82 RUSH 12808 0.470 12450 1.03  
## 83 jkaem 10500 0.513 10405 1.01  
## 84 niko 11176 0.481 10773 1.04  
## 85 es3tag 10964 0.360 10752 1.02  
## 86 gla1ve 13775 0.464 13344 1.03  
## 87 aizy 14759 0.525 14496 1.02  
## 88 GeT\_RiGhT 13177 0.492 12898 1.02  
## 89 disco doplan 11155 0.440 10875 1.03  
## 90 MINISE 11276 0.428 11213 1.01  
## 91 reatz 8746 0.506 8678 1.01  
## 92 nitr0 14705 0.447 14444 1.02  
## 93 AZR 11569 0.518 11579 1.00  
## 94 innocent 8149 0.466 8167 1.00  
## 95 LETN1 7798 0.489 7543 1.03  
## 96 Nifty 9593 0.345 9563 1.00  
## 97 jdm64 10254 0.243 10072 1.02  
## 98 NBK- 13390 0.531 13409 1.00  
## 99 Furlan 16403 0.536 16665 0.98  
## 100 chrisJ 13812 0.423 13865 1.00  
## 101 ANDROID 8737 0.515 8763 1.00  
## 102 byali 12572 0.520 12576 1.00  
## 103 Hiko 8398 0.542 8272 1.02  
## 104 FugLy 12025 0.430 12008 1.00  
## 105 ALEX 10053 0.485 10389 0.97  
## 106 TENZKI 8875 0.520 8830 1.01  
## 107 v1c7oR 14744 0.463 15105 0.98  
## 108 ANGE1 14204 0.543 14941 0.95  
## 109 USTILO 8854 0.460 9226 0.96  
## 110 n0thing 8593 0.534 8762 0.98  
## 111 markeloff 7658 0.445 7703 0.99  
## 112 stanislaw 12109 0.484 12242 0.99  
## 113 RpK 13417 0.521 13896 0.97  
## 114 MODDII 14226 0.533 14394 0.99  
## 115 Spiidi 10162 0.402 10179 1.00  
## 116 tiziaN 8412 0.572 8576 0.98  
## 117 LUCAS1 9009 0.469 9198 0.98  
## 118 RUBINO 8807 0.524 9098 0.97  
## 119 kioShiMa 9632 0.495 9696 0.99  
## 120 pashaBiceps 13302 0.370 13823 0.96  
## 121 BARBARR 8853 0.436 9212 0.96  
## 122 freddieb 12031 0.528 12522 0.96  
## 123 Edward 12586 0.518 12885 0.98  
## 124 dephh 9430 0.478 10044 0.94  
## 125 STYKO 13137 0.572 13635 0.96  
## 126 Relyks 7654 0.526 8103 0.94  
## 127 TOAO 7530 0.467 7795 0.97  
## 128 phr 9528 0.551 9869 0.97  
## 129 to1nou 8723 0.296 9041 0.96  
## 130 Snappi 13783 0.436 14318 0.96  
## 131 bodyy 10598 0.556 11121 0.95  
## 132 MAJ3R 8016 0.483 8347 0.96  
## 133 DeadFox 10288 0.395 10842 0.95  
## 134 denis 13027 0.431 14135 0.92  
## 135 steel 8771 0.389 9292 0.94  
## 136 Ex6TenZ 9201 0.421 9860 0.93  
## 137 seized 8610 0.442 9174 0.94  
## 138 TACO 12349 0.499 12973 0.95  
## 139 Dima 8112 0.518 8962 0.91  
## 140 Dosia 10182 0.475 10965 0.93  
## 141 reltuC 8589 0.399 9177 0.94  
## 142 TaZ 12451 0.520 13471 0.92  
## 143 S0tF1k 8227 0.481 9062 0.91  
## 144 friberg 10217 0.459 11214 0.91  
## 145 Xizt 10985 0.454 11858 0.93  
## 146 AcilioN 10117 0.437 11125 0.91  
## 147 karrigan 14177 0.417 15777 0.90  
## 148 NEO 12455 0.362 13928 0.89  
## 149 ngiN 7642 0.439 8398 0.91  
## 150 kRYSTAL 8424 0.368 9616 0.88  
## 151 Zeus 11317 0.438 13003 0.87  
## 152 MSL 13452 0.407 15935 0.84  
## 153 daps 8849 0.393 10458 0.85  
## 154 gob b 9576 0.490 11409 0.84  
## 155 FNS 7974 0.461 9608 0.83  
## 156 HUNDEN 7762 0.492 10417 0.75  
## Damage...Round Grenade.dmg...Round Maps.played Rounds.played  
## 1 86.7 2.0 636 16747  
## 2 82.0 2.1 850 22137  
## 3 94.0 3.5 613 16090  
## 4 86.2 3.4 819 21572  
## 5 80.8 4.0 847 22016  
## 6 79.6 2.8 737 19382  
## 7 75.4 2.2 499 13041  
## 8 75.6 3.3 783 20649  
## 9 77.7 3.3 656 17106  
## 10 81.3 4.9 811 21248  
## 11 74.7 3.2 525 13605  
## 12 83.8 4.2 571 15038  
## 13 72.9 2.6 768 20068  
## 14 84.7 5.3 444 11764  
## 15 78.0 3.3 459 11998  
## 16 81.9 4.3 688 18190  
## 17 74.2 2.2 546 14166  
## 18 80.9 3.4 704 18410  
## 19 86.4 6.5 585 15507  
## 20 80.0 2.5 551 14513  
## 21 81.4 2.3 785 20620  
## 22 81.6 5.3 778 20116  
## 23 84.1 4.7 839 21862  
## 24 76.5 2.5 512 13404  
## 25 79.3 2.7 867 22532  
## 26 76.3 1.7 446 11802  
## 27 77.0 2.3 490 12854  
## 28 74.9 3.4 744 19738  
## 29 72.4 3.1 850 22137  
## 30 82.7 4.0 541 14358  
## 31 79.4 2.3 733 19264  
## 32 82.2 4.5 736 19514  
## 33 73.5 2.0 680 17919  
## 34 76.3 2.8 725 18892  
## 35 77.1 5.4 518 13495  
## 36 77.2 4.7 631 16614  
## 37 75.0 1.7 544 14240  
## 38 74.8 2.7 859 22511  
## 39 82.2 3.8 825 21652  
## 40 80.1 3.2 767 20032  
## 41 82.1 3.0 829 21799  
## 42 79.5 3.9 621 16410  
## 43 72.8 2.2 596 15731  
## 44 79.3 2.8 710 18535  
## 45 79.6 4.7 603 16036  
## 46 76.4 4.6 729 18928  
## 47 73.5 2.1 452 12023  
## 48 77.4 6.0 872 22693  
## 49 78.7 3.8 882 23114  
## 50 72.5 1.7 468 12443  
## 51 75.5 3.9 441 11500  
## 52 78.3 3.5 722 19054  
## 53 73.7 4.0 617 16459  
## 54 80.9 4.9 779 20244  
## 55 74.5 3.0 533 14202  
## 56 83.5 8.5 774 20205  
## 57 78.5 5.1 495 13127  
## 58 73.1 3.3 498 13099  
## 59 78.4 3.4 674 17771  
## 60 77.3 2.9 455 11983  
## 61 76.7 3.6 750 19606  
## 62 81.4 7.0 739 19505  
## 63 80.8 8.3 649 16995  
## 64 82.8 3.2 507 13082  
## 65 76.5 3.5 712 18580  
## 66 77.8 2.7 790 20490  
## 67 77.2 4.1 796 20865  
## 68 81.4 3.8 756 19950  
## 69 75.8 3.7 505 13297  
## 70 76.3 3.4 635 16796  
## 71 73.4 3.2 697 18151  
## 72 77.0 2.4 714 18494  
## 73 67.2 2.7 702 18222  
## 74 73.0 2.8 515 13550  
## 75 74.9 2.8 713 18756  
## 76 76.4 2.2 516 13511  
## 77 75.7 3.9 734 19170  
## 78 80.2 5.1 640 17057  
## 79 76.2 4.6 845 22210  
## 80 75.0 5.1 667 17572  
## 81 79.7 2.9 751 19800  
## 82 74.8 3.3 720 18600  
## 83 77.9 3.1 563 14948  
## 84 74.2 3.7 627 16354  
## 85 78.1 4.5 610 15861  
## 86 76.8 5.8 779 20439  
## 87 75.5 3.9 820 21654  
## 88 78.1 4.2 731 19084  
## 89 75.5 2.8 612 16217  
## 90 75.7 5.1 608 16177  
## 91 73.8 2.0 474 12750  
## 92 73.6 4.9 827 21703  
## 93 75.8 3.3 631 16614  
## 94 77.0 4.8 453 11862  
## 95 72.4 3.4 444 11746  
## 96 69.0 2.9 542 14341  
## 97 69.6 3.0 587 15348  
## 98 78.3 3.3 750 19794  
## 99 77.4 4.2 905 23826  
## 100 71.4 2.9 786 20716  
## 101 74.0 2.8 487 12845  
## 102 77.1 3.3 696 18211  
## 103 70.6 4.7 497 13035  
## 104 73.1 3.3 695 18287  
## 105 76.5 2.6 540 14380  
## 106 74.8 3.4 508 13320  
## 107 76.3 4.3 827 21749  
## 108 81.4 4.7 786 20550  
## 109 76.0 2.2 495 13039  
## 110 74.1 5.0 490 12838  
## 111 74.5 5.1 439 11484  
## 112 75.0 5.6 710 18489  
## 113 73.5 2.2 767 19953  
## 114 74.1 3.6 825 21646  
## 115 73.5 4.2 594 15775  
## 116 73.4 4.0 481 12786  
## 117 76.2 3.4 525 13612  
## 118 72.5 1.9 506 13195  
## 119 74.5 4.6 564 14786  
## 120 72.4 4.3 750 19662  
## 121 73.7 3.6 500 13317  
## 122 75.8 3.8 677 17937  
## 123 72.3 2.9 726 19149  
## 124 79.4 4.8 518 13699  
## 125 72.9 4.9 779 20471  
## 126 73.4 5.4 447 11504  
## 127 69.4 4.4 445 11778  
## 128 72.9 5.1 550 14531  
## 129 66.6 2.1 509 13534  
## 130 72.8 3.4 797 20951  
## 131 72.0 2.8 628 16555  
## 132 71.9 4.1 484 12590  
## 133 68.9 3.4 625 16376  
## 134 75.7 2.8 730 19429  
## 135 70.5 2.8 528 13760  
## 136 74.6 3.9 546 14417  
## 137 72.7 5.5 508 13410  
## 138 67.5 3.6 781 20166  
## 139 75.8 3.6 468 12287  
## 140 73.2 5.4 596 15925  
## 141 72.1 3.5 515 13583  
## 142 69.1 2.0 746 19687  
## 143 72.8 4.6 493 12926  
## 144 72.5 4.6 619 16167  
## 145 71.9 4.5 673 17605  
## 146 70.8 3.7 616 16226  
## 147 67.9 4.6 892 23323  
## 148 72.8 5.3 763 20004  
## 149 65.7 3.6 498 13027  
## 150 67.5 4.5 542 14313  
## 151 69.6 5.4 717 19036  
## 152 70.5 3.5 827 21781  
## 153 66.0 4.5 602 15671  
## 154 66.7 5.9 635 16794  
## 155 66.5 3.6 515 13732  
## 156 63.6 3.9 545 14458  
## Kills...round Assists...round Deaths...round Saved.by.teammate...round  
## 1 0.86 0.10 0.64 0.08  
## 2 0.79 0.11 0.61 0.08  
## 3 0.84 0.16 0.71 0.10  
## 4 0.81 0.13 0.66 0.08  
## 5 0.78 0.12 0.62 0.08  
## 6 0.77 0.11 0.65 0.08  
## 7 0.75 0.10 0.63 0.10  
## 8 0.76 0.10 0.63 0.09  
## 9 0.74 0.12 0.63 0.10  
## 10 0.74 0.14 0.63 0.09  
## 11 0.71 0.12 0.59 0.08  
## 12 0.75 0.14 0.66 0.09  
## 13 0.73 0.10 0.63 0.08  
## 14 0.76 0.15 0.68 0.10  
## 15 0.74 0.12 0.63 0.09  
## 16 0.75 0.14 0.66 0.10  
## 17 0.72 0.10 0.61 0.08  
## 18 0.76 0.13 0.67 0.10  
## 19 0.77 0.15 0.71 0.09  
## 20 0.75 0.12 0.68 0.11  
## 21 0.75 0.13 0.69 0.09  
## 22 0.73 0.16 0.64 0.10  
## 23 0.75 0.16 0.68 0.09  
## 24 0.74 0.11 0.67 0.08  
## 25 0.73 0.14 0.65 0.10  
## 26 0.74 0.09 0.66 0.10  
## 27 0.71 0.11 0.62 0.07  
## 28 0.73 0.10 0.64 0.08  
## 29 0.70 0.10 0.60 0.08  
## 30 0.74 0.15 0.68 0.10  
## 31 0.74 0.11 0.68 0.08  
## 32 0.74 0.14 0.69 0.09  
## 33 0.72 0.10 0.64 0.08  
## 34 0.73 0.11 0.66 0.09  
## 35 0.72 0.13 0.66 0.10  
## 36 0.70 0.12 0.64 0.09  
## 37 0.72 0.12 0.65 0.10  
## 38 0.70 0.12 0.63 0.09  
## 39 0.74 0.16 0.69 0.11  
## 40 0.74 0.13 0.69 0.09  
## 41 0.73 0.15 0.69 0.10  
## 42 0.73 0.13 0.68 0.09  
## 43 0.72 0.10 0.66 0.09  
## 44 0.73 0.12 0.68 0.10  
## 45 0.72 0.15 0.67 0.10  
## 46 0.71 0.13 0.66 0.09  
## 47 0.72 0.09 0.66 0.09  
## 48 0.68 0.16 0.61 0.08  
## 49 0.72 0.15 0.66 0.10  
## 50 0.72 0.09 0.69 0.09  
## 51 0.70 0.14 0.64 0.09  
## 52 0.71 0.14 0.67 0.09  
## 53 0.71 0.11 0.66 0.08  
## 54 0.72 0.14 0.69 0.10  
## 55 0.71 0.11 0.68 0.09  
## 56 0.71 0.17 0.66 0.09  
## 57 0.72 0.14 0.68 0.08  
## 58 0.69 0.10 0.64 0.09  
## 59 0.71 0.14 0.67 0.10  
## 60 0.73 0.12 0.70 0.11  
## 61 0.70 0.14 0.65 0.09  
## 62 0.71 0.16 0.67 0.09  
## 63 0.70 0.17 0.65 0.09  
## 64 0.74 0.16 0.72 0.10  
## 65 0.71 0.12 0.69 0.10  
## 66 0.71 0.14 0.69 0.10  
## 67 0.71 0.13 0.69 0.08  
## 68 0.72 0.15 0.71 0.10  
## 69 0.70 0.12 0.66 0.09  
## 70 0.69 0.14 0.67 0.09  
## 71 0.70 0.11 0.66 0.08  
## 72 0.72 0.11 0.68 0.06  
## 73 0.65 0.11 0.59 0.09  
## 74 0.69 0.11 0.66 0.09  
## 75 0.69 0.13 0.66 0.10  
## 76 0.71 0.13 0.69 0.10  
## 77 0.70 0.12 0.68 0.08  
## 78 0.71 0.15 0.70 0.08  
## 79 0.69 0.15 0.65 0.10  
## 80 0.69 0.14 0.65 0.10  
## 81 0.70 0.15 0.68 0.09  
## 82 0.69 0.15 0.67 0.11  
## 83 0.70 0.14 0.70 0.11  
## 84 0.68 0.13 0.66 0.10  
## 85 0.69 0.15 0.68 0.10  
## 86 0.67 0.16 0.65 0.10  
## 87 0.68 0.13 0.67 0.09  
## 88 0.69 0.15 0.68 0.08  
## 89 0.69 0.13 0.67 0.09  
## 90 0.70 0.12 0.69 0.08  
## 91 0.69 0.12 0.68 0.10  
## 92 0.68 0.14 0.67 0.11  
## 93 0.70 0.13 0.70 0.11  
## 94 0.69 0.15 0.69 0.09  
## 95 0.66 0.12 0.64 0.10  
## 96 0.67 0.08 0.67 0.10  
## 97 0.67 0.10 0.66 0.10  
## 98 0.68 0.15 0.68 0.09  
## 99 0.69 0.14 0.70 0.11  
## 100 0.67 0.11 0.67 0.10  
## 101 0.68 0.13 0.68 0.10  
## 102 0.69 0.13 0.69 0.09  
## 103 0.64 0.13 0.63 0.09  
## 104 0.66 0.13 0.66 0.10  
## 105 0.70 0.12 0.72 0.09  
## 106 0.67 0.14 0.66 0.09  
## 107 0.68 0.16 0.69 0.12  
## 108 0.69 0.16 0.73 0.10  
## 109 0.68 0.14 0.71 0.12  
## 110 0.67 0.14 0.68 0.10  
## 111 0.67 0.14 0.67 0.08  
## 112 0.65 0.14 0.66 0.10  
## 113 0.67 0.12 0.70 0.11  
## 114 0.66 0.13 0.66 0.09  
## 115 0.64 0.14 0.65 0.09  
## 116 0.66 0.13 0.67 0.09  
## 117 0.66 0.16 0.68 0.10  
## 118 0.67 0.13 0.69 0.10  
## 119 0.65 0.14 0.66 0.08  
## 120 0.68 0.12 0.70 0.08  
## 121 0.66 0.13 0.69 0.09  
## 122 0.67 0.14 0.70 0.09  
## 123 0.66 0.13 0.67 0.10  
## 124 0.69 0.15 0.73 0.11  
## 125 0.64 0.14 0.67 0.10  
## 126 0.67 0.12 0.70 0.10  
## 127 0.64 0.11 0.66 0.09  
## 128 0.66 0.13 0.68 0.10  
## 129 0.64 0.09 0.67 0.09  
## 130 0.66 0.13 0.68 0.10  
## 131 0.64 0.13 0.67 0.11  
## 132 0.64 0.13 0.66 0.08  
## 133 0.63 0.12 0.66 0.10  
## 134 0.67 0.14 0.73 0.11  
## 135 0.64 0.13 0.68 0.10  
## 136 0.64 0.14 0.68 0.09  
## 137 0.64 0.15 0.68 0.08  
## 138 0.61 0.12 0.64 0.09  
## 139 0.66 0.15 0.73 0.12  
## 140 0.64 0.15 0.69 0.08  
## 141 0.63 0.14 0.68 0.09  
## 142 0.63 0.13 0.68 0.10  
## 143 0.64 0.14 0.70 0.10  
## 144 0.63 0.15 0.69 0.10  
## 145 0.62 0.15 0.67 0.11  
## 146 0.62 0.14 0.69 0.10  
## 147 0.61 0.13 0.68 0.09  
## 148 0.62 0.15 0.70 0.09  
## 149 0.59 0.13 0.64 0.10  
## 150 0.59 0.13 0.67 0.09  
## 151 0.59 0.16 0.68 0.11  
## 152 0.62 0.15 0.73 0.12  
## 153 0.56 0.15 0.67 0.11  
## 154 0.57 0.13 0.68 0.10  
## 155 0.58 0.14 0.70 0.10  
## 156 0.54 0.14 0.72 0.11  
## Saved.teammates...round Rating.1.0 Major.Titles  
## 1 0.11 1.25 0  
## 2 0.10 1.18 2  
## 3 0.10 1.27 0  
## 4 0.10 1.17 0  
## 5 0.09 1.17 3  
## 6 0.09 1.13 0  
## 7 0.11 1.15 0  
## 8 0.12 1.12 1  
## 9 0.13 1.14 0  
## 10 0.10 1.11 2  
## 11 0.10 1.10 0  
## 12 0.10 1.10 0  
## 13 0.09 1.10 0  
## 14 0.11 1.17 0  
## 15 0.10 1.13 0  
## 16 0.11 1.14 0  
## 17 0.10 1.13 0  
## 18 0.10 1.09 1  
## 19 0.09 1.09 0  
## 20 0.12 1.08 0  
## 21 0.10 1.08 0  
## 22 0.11 1.08 0  
## 23 0.08 1.08 2  
## 24 0.08 1.08 0  
## 25 0.09 1.08 3  
## 26 0.10 1.12 0  
## 27 0.10 1.11 0  
## 28 0.09 1.07 0  
## 29 0.08 1.07 2  
## 30 0.12 1.14 0  
## 31 0.09 1.07 1  
## 32 0.09 1.06 0  
## 33 0.08 1.06 0  
## 34 0.10 1.06 1  
## 35 0.10 1.12 0  
## 36 0.11 1.06 0  
## 37 0.10 1.10 0  
## 38 0.10 1.06 0  
## 39 0.12 1.06 0  
## 40 0.10 1.06 0  
## 41 0.09 1.06 0  
## 42 0.09 1.05 0  
## 43 0.10 1.05 0  
## 44 0.11 1.05 0  
## 45 0.12 1.05 0  
## 46 0.09 1.05 2  
## 47 0.10 1.05 0  
## 48 0.09 1.05 3  
## 49 0.11 1.04 1  
## 50 0.09 1.06 0  
## 51 0.12 1.04 0  
## 52 0.10 1.04 0  
## 53 0.09 1.04 1  
## 54 0.08 1.04 1  
## 55 0.09 1.04 0  
## 56 0.09 1.04 3  
## 57 0.09 1.08 1  
## 58 0.08 1.03 0  
## 59 0.09 1.03 0  
## 60 0.11 1.08 0  
## 61 0.10 1.03 2  
## 62 0.09 1.03 0  
## 63 0.10 1.03 0  
## 64 0.09 1.03 0  
## 65 0.10 1.03 0  
## 66 0.10 1.02 1  
## 67 0.08 1.02 3  
## 68 0.09 1.02 1  
## 69 0.11 1.02 0  
## 70 0.10 1.07 0  
## 71 0.08 1.02 0  
## 72 0.07 1.02 2  
## 73 0.09 1.02 1  
## 74 0.09 1.02 0  
## 75 0.11 1.02 0  
## 76 0.12 1.07 0  
## 77 0.08 1.02 1  
## 78 0.08 1.02 1  
## 79 0.11 1.02 0  
## 80 0.11 1.02 0  
## 81 0.11 1.01 0  
## 82 0.11 1.01 1  
## 83 0.11 1.01 0  
## 84 0.11 1.06 0  
## 85 0.10 1.01 0  
## 86 0.08 1.01 3  
## 87 0.10 1.00 0  
## 88 0.08 1.00 1  
## 89 0.10 1.00 0  
## 90 0.07 1.00 0  
## 91 0.11 1.03 0  
## 92 0.10 1.00 0  
## 93 0.11 1.00 0  
## 94 0.09 1.00 0  
## 95 0.09 1.06 0  
## 96 0.09 1.02 0  
## 97 0.09 0.99 0  
## 98 0.09 0.99 2  
## 99 0.09 0.99 0  
## 100 0.08 0.99 0  
## 101 0.12 0.99 0  
## 102 0.10 0.99 1  
## 103 0.11 0.98 0  
## 104 0.11 0.98 0  
## 105 0.09 0.98 0  
## 106 0.10 0.98 0  
## 107 0.10 0.98 0  
## 108 0.07 0.98 0  
## 109 0.10 0.98 0  
## 110 0.10 0.97 0  
## 111 0.09 0.97 0  
## 112 0.09 0.97 0  
## 113 0.10 0.97 0  
## 114 0.08 0.97 0  
## 115 0.10 0.97 0  
## 116 0.09 0.97 0  
## 117 0.09 0.97 0  
## 118 0.09 0.97 0  
## 119 0.09 0.97 2  
## 120 0.08 0.96 3  
## 121 0.09 0.96 0  
## 122 0.09 0.96 0  
## 123 0.09 0.96 0  
## 124 0.09 1.04 0  
## 125 0.09 0.96 0  
## 126 0.10 0.96 0  
## 127 0.09 1.00 0  
## 128 0.10 1.01 0  
## 129 0.09 0.95 0  
## 130 0.09 0.95 0  
## 131 0.09 0.95 0  
## 132 0.07 0.94 0  
## 133 0.11 0.94 0  
## 134 0.10 0.94 0  
## 135 0.09 0.94 0  
## 136 0.09 0.93 0  
## 137 0.07 0.93 0  
## 138 0.07 0.93 2  
## 139 0.10 1.02 0  
## 140 0.08 0.93 1  
## 141 0.10 0.93 0  
## 142 0.09 0.92 1  
## 143 0.09 0.98 0  
## 144 0.10 0.92 1  
## 145 0.10 0.92 1  
## 146 0.09 0.91 0  
## 147 0.07 0.91 0  
## 148 0.08 0.91 1  
## 149 0.09 0.95 0  
## 150 0.08 0.88 0  
## 151 0.08 0.88 1  
## 152 0.09 0.87 0  
## 153 0.08 0.86 0  
## 154 0.08 0.85 0  
## 155 0.07 0.85 0  
## 156 0.08 0.78 0

fit = lm(y~x1+x2+x3+x4+x5+x6+x7+x8+x9+x10+x11+x12+x13+x14,dat)  
sumfit = summary(fit)  
anovafit = anova(fit)  
mod = model.matrix(fit)  
lev = hat(mod)

## Multiple Linear Regression

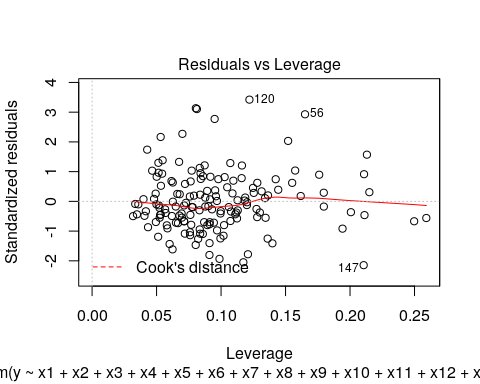
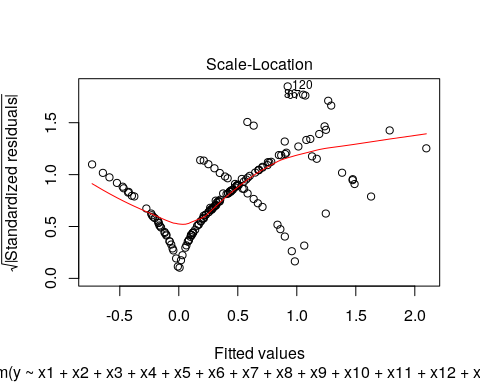
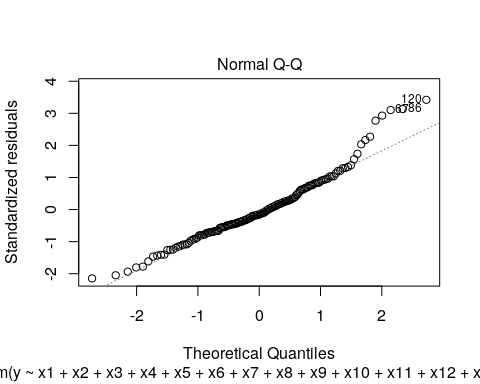
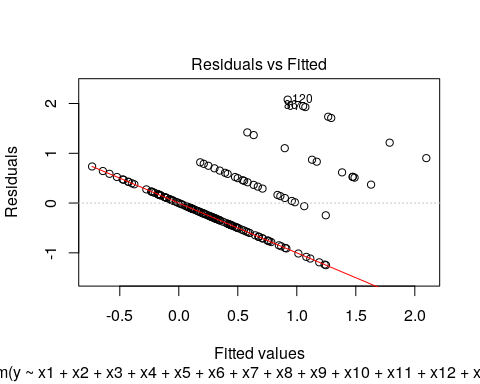
# Coefficients of Multiple Linear Regression  
coeff = round(coef(fit), digits = 3)  
B0H = getElement(coeff, "(Intercept)")  
B1H = getElement(coeff, "x1")  
B2H = getElement(coeff, "x2")  
B3H = getElement(coeff, "x3")  
B4H = getElement(coeff, "x4")  
B5H = getElement(coeff, "x5")  
B6H = getElement(coeff, "x6")  
B7H = getElement(coeff, "x7")  
B8H = getElement(coeff, "x8")  
B9H = getElement(coeff, "x9")  
B10H = getElement(coeff, "x10")  
B11H = getElement(coeff, "x11")  
B12H = getElement(coeff, "x12")  
B13H = getElement(coeff, "x13")  
B14H = getElement(coeff, "x14")

From our coefficients we have x1 = 3.198596e-04, representing the total amount of kills in the player’s career x2 = 1.739149e-01, a proportion of headshot kills to kills x3 = -8.698547e-04, number of total deaths in the player’s career x4 = -4.916218e+00, the ratio of total kills to total deaths x5 = -6.188700e-02, the amount of damage done per round x6 = 4.799665e-02, the amount of damage done with grenades only per round x7 = 3.472583e-02, the total amount of maps played in the player’s career x8 = -8.801416e-04, the total amount of rounds played in a the player’s career x9 = 4.953407e+00, the proportion of kills per round x10 = 1.188841e+01, the proportion of assist kills per round x11 = 7.454971e+00, the proportion of deaths per round, x12 = -1.953565e+01, the proportion of times saved by a teammate per round x13 = -1.070168e+01, the proportion of times saving a teammate per round x14 = 2.114881e+00, HLTV’s ranking system. These represent an increase or decrease in relationship to the number of Major Titles won, holding the other variables constant.

Thus our multiple linear regression model is

## Plots

plot(fit)



#new\_dat01 = data.frame(dat)  
#new\_dat02 = new\_dat01[,-1]  
#ok = lm(Major.Titles~.,new\_dat02)  
#ok\_sum = summary(ok)  
#std\_res= ok\_sum$residuals/ok\_sum$sigma  
#qqnorm(std\_res)  
#qqline(std\_res)  
#shapiro.test(ok\_sum$residuals)  
#plot(ok$fitted.values, std\_res)  
#abline(h=0, col ='red')  
shapiro.test(fit$residuals)

##   
## Shapiro-Wilk normality test  
##   
## data: fit$residuals  
## W = 0.95397, p-value = 5.037e-05

Looking at the QQ Plot we can see a light-tail distribution and with the Shapiro test giving a p-value of 4.982e-05 we reject the null hypothesis which means our data is not normally distributed.

library(lmtest)

## Loading required package: zoo

##   
## Attaching package: 'zoo'

## The following objects are masked from 'package:base':  
##   
## as.Date, as.Date.numeric

library(lawstat)

runs.test(fit$residuals, alternative = "two.sided")

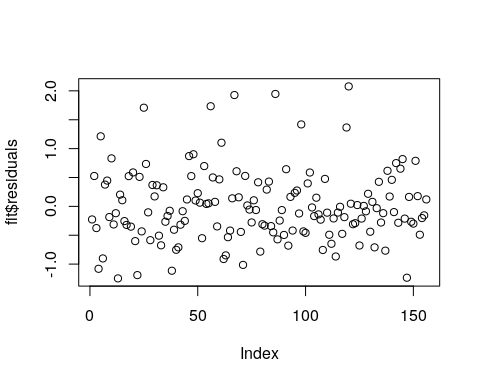
##   
## Runs Test - Two sided  
##   
## data: fit$residuals  
## Standardized Runs Statistic = 0.48194, p-value = 0.6298

bartels.test(fit$residuals, alternative = "two.sided")

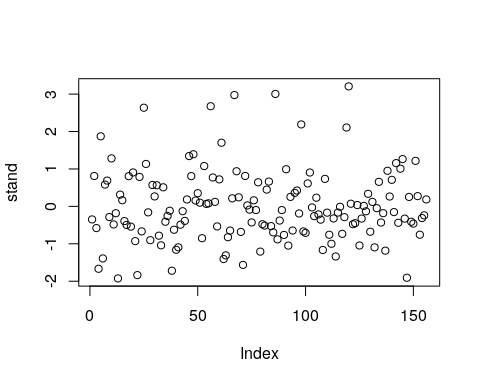
##   
## Bartels Test - Two sided  
##   
## data: fit$residuals  
## Standardized Bartels Statistic = 0.21237, RVN Ratio = 2.034,  
## p-value = 0.8318

Both our runs and bartels test give a p-value larger than an = 0.01 which means we fail to reject the null at 1% significance level. We interpret this to mean that the autocorrelation is 0 mean our residuals are unrelated.

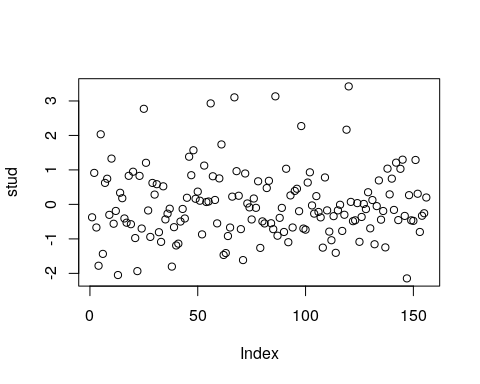
# Index Plot of Residuals  
plot(fit$residuals)



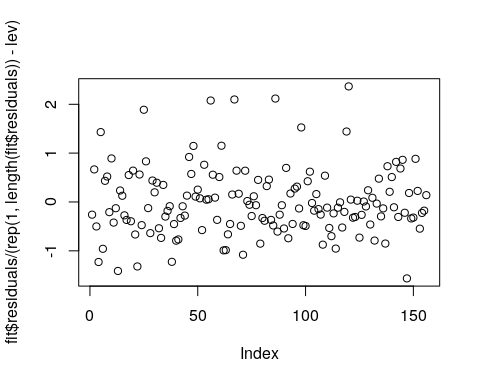
# Standardized Residuals  
stand = fit$residuals/sumfit$sigma  
plot(stand)



# Studentized Residuals  
stud = fit$residuals/(sumfit$sigma\*sqrt(1-lev))  
plot(stud)



# PRESS residuals  
plot(fit$residuals/(rep(1,length(fit$residuals))-lev))



## Test for significance of Regression

;

# Test for significance of Regression.  
sumfit

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

# P Value from summary(fit)  
pval = 1.378e-10  
pval

## [1] 1.378e-10

Since the p-value is 1.378e-10 which is less than , we reject and conclude that the regression model is significant. Since the regression model is significant we can say that there is a linear relationship between the response y and the regressors

## Contribution of Regressors

sumfit

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

From the regression table we can see that the p-values of the intercept is significantly greater than of 0.05. Therefore at a 5% significance level we can interpret that the intercept is equal to 0.

From the regression table we can see that the p-values of is greater than of 0.05. Therefore at a 5% significance level we can interpret that the regressor is not contributing significantly to the model of y.

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From the regression table we can see that the p-values of is less than of 0.05. Therefore at a 5% significance level we can interpret that the regressor is contributing significantly to the model of y, given that all our other regressons are also in the model.

From the regression table we can see that the p-values of is greater than of 0.05. Therefore at a 5% significance level we can interpret that the regressor is not contributing significantly to the model of y.

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From the regression table we can see that the p-values of is greater than of 0.05. Therefore at a 5% significance level we can interpret that the regressor is not contributing significantly to the model of y.

From this we can conclude that the regressors and are contributing significantly to our model of y, while the other regressors have little to not contribution to the model.

sumfit$r.squared

## [1] 0.4054516

sumfit$adj.r.squared

## [1] 0.3464184

Our = 0.41 which means that only 41% of our variance in total Major titles is explained by all regressors. Adding regressors that do not have an impact decreased our adjusted to 0.35.

newfit = lm(y~x7 + x12,dat)  
sumnewfit = summary(newfit)  
sumnewfit$r.squared

## [1] 0.2868018

sumnewfit$adj.r.squared

## [1] 0.277479

With only and our = 0.29 and the adjusted = 0.28 which are values approximately 12% different than before which shows still that these regressors alone have the most impact on our original model.

## Confidence Interval

confi = confint(fit, level= .95)  
confi

## 2.5 % 97.5 %  
## (Intercept) -2.054939e+01 19.1453070756  
## x1 -3.735214e-04 0.0010153810  
## x2 -1.495099e+00 1.8123206086  
## x3 -1.887143e-03 0.0001476608  
## x4 -1.935856e+01 9.4672696028  
## x5 -1.826802e-01 0.0596036342  
## x6 -8.042739e-02 0.1760297591  
## x7 1.167888e-02 0.0578004664  
## x8 -2.150372e-03 0.0003874596  
## x9 -1.769707e+01 27.5790376278  
## x10 -3.607355e+00 27.3585247033  
## x11 -1.678073e+01 31.6122127240  
## x12 -3.539611e+01 -3.6703611004  
## x13 -2.353268e+01 2.1974893422  
## x14 -3.663464e+00 7.9002893826

newconfi = confint(newfit, level = .95)  
newconfi

## 2.5 % 97.5 %  
## (Intercept) -0.407941836 1.857037988  
## x7 0.001916463 0.003586666  
## x12 -32.642689802 -11.875829632

Looking at the two most significant regressors alone, we can say with 95% confidence that our coefficient lies in between 1.17e-02 and 0.06 while lies between -3.5e+01 and -3.7 with all regressors.

While having only these two regressors in the model we can say with 95% confidence that our coefficient lies in between 0.002 and 0.003 while lies between -32.6 and -11.9

## Eigensystem and Measure of Multicollinearity

library(car)

##   
## Attaching package: 'car'

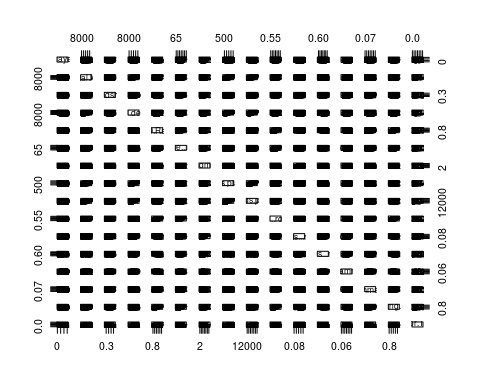
## The following object is masked from 'package:lawstat':  
##   
## levene.test

vif(fit)

## x1 x2 x3 x4 x5 x6   
## 309.099719 1.821265 500.657918 164.333811 30.050776 2.238552   
## x7 x8 x9 x10 x11 x12   
## 842.235107 1724.249085 120.392217 7.775594 41.054167 2.577779   
## x13 x14   
## 2.370583 17.909987

There is multicollinearity in our data, with high VIFs for , and , with , total amount of rounds played, having the strongest level of multicollinearity at vif of 1724.

plot(dat)



cor(dat[,2:15])

## Total.kills Headshot.. Total.deaths  
## Total.kills 1.000000000 0.02320819 0.91248133  
## Headshot.. 0.023208194 1.00000000 0.10198662  
## Total.deaths 0.912481329 0.10198662 1.00000000  
## K.D.Ratio 0.439364688 -0.18409197 0.04123611  
## Damage...Round 0.473416304 0.26506331 0.24112994  
## Grenade.dmg...Round 0.028716579 0.12964880 0.12187721  
## Maps.played 0.946404699 0.02554296 0.97485768  
## Rounds.played 0.946247461 0.02769252 0.97803024  
## Kills...round 0.458935976 -0.01885640 0.11518609  
## Assists...round 0.129839970 0.44346978 0.28352993  
## Deaths...round -0.137947871 0.34312635 0.12016899  
## Saved.by.teammate...round -0.112659456 0.31581575 0.06857165  
## Saved.teammates...round 0.008167472 0.24984468 -0.15742336  
## Rating.1.0 0.341905352 -0.07106990 -0.03554275  
## K.D.Ratio Damage...Round Grenade.dmg...Round  
## Total.kills 0.43936469 0.47341630 0.028716579  
## Headshot.. -0.18409197 0.26506331 0.129648802  
## Total.deaths 0.04123611 0.24112994 0.121877212  
## K.D.Ratio 1.00000000 0.63257402 -0.217816562  
## Damage...Round 0.63257402 1.00000000 0.139864813  
## Grenade.dmg...Round -0.21781656 0.13986481 1.000000000  
## Maps.played 0.17520713 0.22361264 0.104696789  
## Rounds.played 0.16817240 0.22320679 0.105338823  
## Kills...round 0.88450186 0.84566997 -0.204721304  
## Assists...round -0.32313523 0.33183206 0.628204237  
## Deaths...round -0.60613417 0.09673721 0.082589244  
## Saved.by.teammate...round -0.41130827 -0.11266923 -0.009150855  
## Saved.teammates...round 0.37948702 0.30410401 -0.189002398  
## Rating.1.0 0.93323566 0.73391595 -0.199250621  
## Maps.played Rounds.played Kills...round  
## Total.kills 0.94640470 0.94624746 0.4589360  
## Headshot.. 0.02554296 0.02769252 -0.0188564  
## Total.deaths 0.97485768 0.97803024 0.1151861  
## K.D.Ratio 0.17520713 0.16817240 0.8845019  
## Damage...Round 0.22361264 0.22320679 0.8456700  
## Grenade.dmg...Round 0.10469679 0.10533882 -0.2047213  
## Maps.played 1.00000000 0.99927967 0.1554838  
## Rounds.played 0.99927967 1.00000000 0.1533798  
## Kills...round 0.15548382 0.15337980 1.0000000  
## Assists...round 0.20465609 0.20460373 -0.1698317  
## Deaths...round -0.09528332 -0.08374287 -0.1758896  
## Saved.by.teammate...round -0.02158445 -0.01979839 -0.2673141  
## Saved.teammates...round -0.12428897 -0.12443265 0.3784311  
## Rating.1.0 0.05263075 0.04768717 0.9286702  
## Assists...round Deaths...round  
## Total.kills 0.129839970 -0.13794787  
## Headshot.. 0.443469776 0.34312635  
## Total.deaths 0.283529931 0.12016899  
## K.D.Ratio -0.323135228 -0.60613417  
## Damage...Round 0.331832061 0.09673721  
## Grenade.dmg...Round 0.628204237 0.08258924  
## Maps.played 0.204656087 -0.09528332  
## Rounds.played 0.204603732 -0.08374287  
## Kills...round -0.169831745 -0.17588956  
## Assists...round 1.000000000 0.39080037  
## Deaths...round 0.390800367 1.00000000  
## Saved.by.teammate...round 0.338093440 0.43251306  
## Saved.teammates...round 0.004622332 -0.16817209  
## Rating.1.0 -0.241601657 -0.39503706  
## Saved.by.teammate...round  
## Total.kills -0.112659456  
## Headshot.. 0.315815748  
## Total.deaths 0.068571647  
## K.D.Ratio -0.411308267  
## Damage...Round -0.112669230  
## Grenade.dmg...Round -0.009150855  
## Maps.played -0.021584454  
## Rounds.played -0.019798390  
## Kills...round -0.267314107  
## Assists...round 0.338093440  
## Deaths...round 0.432513056  
## Saved.by.teammate...round 1.000000000  
## Saved.teammates...round 0.334223465  
## Rating.1.0 -0.267954807  
## Saved.teammates...round Rating.1.0  
## Total.kills 0.008167472 0.34190535  
## Headshot.. 0.249844678 -0.07106990  
## Total.deaths -0.157423358 -0.03554275  
## K.D.Ratio 0.379487023 0.93323566  
## Damage...Round 0.304104015 0.73391595  
## Grenade.dmg...Round -0.189002398 -0.19925062  
## Maps.played -0.124288967 0.05263075  
## Rounds.played -0.124432654 0.04768717  
## Kills...round 0.378431133 0.92867019  
## Assists...round 0.004622332 -0.24160166  
## Deaths...round -0.168172090 -0.39503706  
## Saved.by.teammate...round 0.334223465 -0.26795481  
## Saved.teammates...round 1.000000000 0.42932215  
## Rating.1.0 0.429322155 1.00000000

From both our plots and table we can see a very strong positive relatioship among our regressors. It is not surprising to see a strong positive relationship between and because in this game, the Maps consisnt of rounds, so as the number of Maps increase we can undoubtedly expect an increase in the number of rounds played.

stdx = scale(dat[,2:15])  
exx = eigen(t(stdx)%\*%stdx)  
exx

## eigen() decomposition  
## $values  
## [1] 726.57842697 560.20310105 348.34148188 207.59089321 142.83525826  
## [6] 96.28190232 40.79350483 36.82138500 6.18092744 2.95267999  
## [11] 0.68327376 0.43073565 0.24323851 0.06319113  
##   
## $vectors  
## [,1] [,2] [,3] [,4] [,5]  
## [1,] 0.413969272 -0.21349531 -0.095701554 -0.07754123 0.013864646  
## [2,] -0.003261819 -0.14896429 0.452904227 -0.10662396 -0.009228428  
## [3,] 0.300413499 -0.38088653 -0.104222439 -0.12090004 0.063217791  
## [4,] 0.357246029 0.32175631 -0.006836111 0.05603005 -0.103070093  
## [5,] 0.329508477 0.07954296 0.384371609 0.21855209 0.234338610  
## [6,] -0.021526118 -0.22001843 0.161293344 0.63575815 -0.359166977  
## [7,] 0.332910352 -0.33012079 -0.171292282 -0.10080885 -0.078215303  
## [8,] 0.331624132 -0.33267544 -0.169636681 -0.10288589 -0.070330492  
## [9,] 0.359210976 0.26125285 0.179591048 0.03206558 0.246012026  
## [10,] 0.005017150 -0.31852083 0.394414784 0.30887835 -0.173370739  
## [11,] -0.142828207 -0.23998245 0.313916540 -0.08651893 0.658593359  
## [12,] -0.117877232 -0.18350450 0.331747784 -0.48614723 -0.187663107  
## [13,] 0.101333441 0.19517284 0.355649945 -0.38741822 -0.479313995  
## [14,] 0.327538743 0.33192372 0.141535022 0.04253899 0.028970168  
## [,6] [,7] [,8] [,9] [,10]  
## [1,] 0.0009296921 -0.019810920 -0.043426209 -0.064706267 -0.13030401  
## [2,] 0.8272407213 0.221026149 -0.151044506 -0.002222707 -0.07137528  
## [3,] -0.0134758416 -0.082178138 -0.073961611 0.073229137 0.05771482  
## [4,] 0.0023861328 0.151103946 0.050390570 -0.266101708 -0.31655973  
## [5,] -0.0748342385 -0.015117038 0.134499610 -0.318849295 0.71257219  
## [6,] -0.1740893429 0.040796636 -0.597747642 -0.021322233 -0.04388052  
## [7,] 0.0243033073 -0.006962120 -0.004111972 0.045117522 0.03314422  
## [8,] 0.0228058603 -0.023130382 -0.020287142 0.052984899 0.05472889  
## [9,] -0.1053244121 0.009091041 -0.114226922 -0.267819167 -0.47738526  
## [10,] -0.1119448275 -0.077827132 0.699422141 0.147136031 -0.29546270  
## [11,] -0.2090942332 -0.280624656 -0.250416608 0.159715426 -0.18893663  
## [12,] -0.4476265524 0.585983086 -0.069009569 -0.147514597 0.01948795  
## [13,] -0.0622632242 -0.647692885 -0.134019930 0.046004037 0.04101176  
## [14,] -0.0829162116 0.266309570 -0.061628452 0.818480891 0.08748295  
## [,11] [,12] [,13] [,14]  
## [1,] 0.289804906 0.762608571 -0.249794236 0.1276105504  
## [2,] 0.003454530 -0.010275867 0.001709646 -0.0029826056  
## [3,] -0.281755205 -0.426398706 -0.618306452 0.2657031476  
## [4,] 0.601654460 -0.431939261 -0.096342676 0.0282771398  
## [5,] 0.024411629 0.010700474 0.024936866 -0.0009171107  
## [6,] 0.014466854 -0.006764888 -0.000172593 0.0038352052  
## [7,] 0.003141602 -0.140567413 0.707600688 0.4585977522  
## [8,] 0.015928255 -0.113341881 0.136342731 -0.8343172208  
## [9,] -0.597648765 0.071627774 0.133263941 -0.0706401633  
## [10,] -0.021159248 -0.004407074 -0.016506139 -0.0051177183  
## [11,] 0.340271018 -0.106454837 0.089043267 -0.0283434654  
## [12,] -0.003108269 0.010330731 -0.006722396 -0.0028201850  
## [13,] 0.009275535 -0.001736987 0.007724559 0.0051233924  
## [14,] -0.006817537 0.024021156 -0.006316017 0.0065146480

kappa = max(exx$values)/min(exx$values)  
kappa

## [1] 11498.11

Our kappa value is 11497 which is indicative of strong multicollinearity in our data set.

## Condition Indices

max(exx$values)/exx$values

## [1] 1.000000 1.296991 2.085822 3.500050 5.086828  
## [6] 7.546366 17.811130 19.732512 117.551684 246.074221  
## [11] 1063.378202 1686.831407 2987.102764 11498.107329

exx Values for , , , and are above 1000 leading us to believe that these regressors are involved with multicollinearity. Further testing is required.

library(mctest)  
#xd <- dat[,10]  
#yd <- dat[,2]  
#mctest(xd,yd,type='b')  
#imcdiag(xd,yd,method='Klein')

## Influential Observations

infl = influence.measures(fit)  
infl

## Influence measures of  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 + x10 + x11 + x12 + x13 + x14, data = dat) :  
##   
## dfb.1\_ dfb.x1 dfb.x2 dfb.x3 dfb.x4 dfb.x5 dfb.x6  
## 1 0.055818 0.040283 -0.028482 -5.17e-03 -6.24e-02 2.80e-04 -5.06e-03  
## 2 -0.091160 0.188185 0.105702 -1.01e-01 1.72e-01 2.86e-02 -3.02e-02  
## 3 -0.033310 0.015018 0.051785 6.44e-03 1.26e-01 -8.51e-02 1.16e-01  
## 4 -0.288867 -0.443399 -0.056819 -3.88e-02 1.56e-01 3.59e-02 3.29e-02  
## 5 -0.043696 0.463410 -0.044996 -5.91e-02 2.26e-01 -1.99e-01 1.90e-01  
## 6 -0.077243 -0.122918 0.164781 4.98e-02 8.80e-02 -2.18e-03 5.62e-02  
## 7 -0.043946 -0.082917 -0.060494 9.21e-02 8.61e-02 -2.81e-02 8.25e-03  
## 8 0.059186 0.094925 -0.062321 -4.44e-02 -7.57e-02 -8.76e-02 8.69e-02  
## 9 0.009766 -0.002054 -0.052391 -1.49e-02 -1.86e-02 2.53e-02 -2.74e-02  
## 10 -0.045352 0.038984 0.057172 -1.71e-01 -1.96e-02 7.73e-02 5.92e-02  
## 11 0.046069 0.044626 0.061470 -1.87e-01 -2.14e-01 8.78e-03 1.45e-02  
## 12 0.010637 0.015467 -0.004727 -4.85e-03 -1.72e-02 -3.03e-02 2.09e-03  
## 13 0.316693 -0.028456 0.017134 1.77e-01 -2.61e-01 3.90e-01 -8.21e-02  
## 14 -0.054975 -0.059711 -0.000149 -1.83e-02 1.18e-02 1.10e-02 2.37e-02  
## 15 -0.015653 -0.035671 0.043136 3.01e-02 3.12e-02 -1.87e-02 5.45e-03  
## 16 -0.040826 -0.038229 0.026303 -1.63e-02 3.58e-02 -8.25e-03 -3.61e-03  
## 17 0.009473 0.032799 0.065814 -9.46e-02 -6.85e-02 -2.59e-02 3.44e-02  
## 18 0.054491 0.051249 0.021777 2.60e-02 -1.95e-02 -2.71e-02 1.97e-02  
## 19 0.029030 0.030312 0.004244 2.05e-02 5.06e-03 -2.97e-02 -1.07e-01  
## 20 -0.019494 -0.059235 0.027035 -3.72e-02 -1.41e-02 8.89e-02 -2.58e-03  
## 21 -0.182199 -0.164254 -0.026368 -1.11e-01 1.08e-01 -6.84e-03 9.98e-02  
## 22 -0.086370 -0.046562 0.231109 1.22e-01 1.63e-01 -1.15e-01 -4.23e-02  
## 23 0.103599 0.115813 -0.040604 5.83e-02 -4.92e-02 -2.09e-02 -2.79e-02  
## 24 0.039336 0.041207 0.072280 -2.22e-02 -4.51e-02 4.58e-02 3.48e-02  
## 25 0.075248 0.331392 0.222890 -3.09e-02 8.09e-02 -1.23e-01 -2.69e-01  
## 26 0.000838 -0.119736 -0.133381 4.48e-02 -1.73e-02 2.04e-01 -6.03e-02  
## 27 -0.005566 0.017730 -0.013296 -3.01e-02 -1.08e-02 -2.74e-02 2.54e-02  
## 28 -0.086098 -0.048232 0.092998 1.48e-02 8.51e-02 -1.93e-03 -2.98e-02  
## 29 -0.075433 -0.059379 -0.008763 -1.70e-01 -2.93e-02 4.78e-02 -1.93e-02  
## 30 0.005593 -0.011925 -0.026283 -1.04e-02 -3.90e-02 1.70e-02 -2.23e-02  
## 31 -0.034535 0.011690 0.029547 1.64e-03 4.67e-02 5.30e-02 -2.13e-02  
## 32 -0.008811 -0.074054 0.008402 -3.10e-02 -4.47e-02 -3.11e-02 -3.69e-02  
## 33 -0.134584 -0.008317 0.051815 2.27e-02 1.59e-01 3.63e-02 1.26e-01  
## 34 0.033578 0.028951 0.052473 1.66e-02 -1.91e-02 -2.24e-02 2.14e-02  
## 35 -0.005552 -0.010128 0.015920 -5.07e-02 -1.01e-02 4.57e-02 -8.10e-02  
## 36 0.018153 0.006907 -0.014687 2.77e-03 -2.42e-02 -4.33e-02 -3.37e-02  
## 37 -0.016519 0.002959 -0.012608 -4.56e-03 2.04e-02 1.70e-02 1.90e-02  
## 38 0.182579 -0.007350 0.066694 3.36e-01 -1.53e-02 -9.73e-02 1.47e-01  
## 39 -0.086103 -0.103768 0.069455 -6.91e-02 3.22e-02 2.76e-02 1.89e-02  
## 40 -0.060968 -0.072706 -0.038799 -7.42e-02 3.16e-02 2.65e-02 -5.89e-03  
## 41 0.001763 -0.088090 -0.072060 -6.22e-02 -8.48e-02 -1.98e-02 1.17e-01  
## 42 -0.005644 0.010648 0.026506 1.74e-02 2.02e-02 -2.63e-02 3.15e-03  
## 43 0.003948 0.005528 0.001804 2.67e-03 -7.41e-04 1.45e-02 -6.51e-04  
## 44 0.001895 0.006022 -0.072422 1.69e-02 1.13e-02 -3.72e-02 -1.05e-02  
## 45 -0.016636 -0.006002 0.010904 -3.13e-03 1.82e-02 -1.36e-02 1.36e-02  
## 46 -0.048079 0.053106 0.143418 2.70e-02 8.57e-02 -1.60e-01 1.76e-01  
## 47 0.043928 -0.058954 -0.065350 -1.99e-02 -7.61e-02 6.37e-02 -1.87e-02  
## 48 -0.295855 -0.275791 -0.014376 -5.37e-01 -1.13e-01 5.06e-02 -3.61e-02  
## 49 0.016112 0.008527 0.009485 2.43e-03 -1.54e-02 -1.74e-02 -4.74e-03  
## 50 -0.041184 -0.021965 -0.020376 -2.79e-02 1.03e-02 -3.27e-02 -1.84e-03  
## 51 0.008863 -0.003803 0.012334 1.42e-02 -1.73e-04 -1.65e-02 9.99e-04  
## 52 0.078595 0.016001 -0.091120 1.98e-02 -8.30e-02 4.54e-02 2.45e-02  
## 53 0.064374 0.031725 -0.119042 2.38e-02 -5.70e-02 -1.01e-01 7.12e-02  
## 54 0.005421 0.004446 0.001194 4.59e-03 -2.27e-03 6.66e-03 6.10e-03  
## 55 -0.006265 -0.003116 -0.003562 -4.57e-03 3.03e-03 -3.17e-03 9.67e-04  
## 56 0.331175 0.031256 -0.423806 5.76e-02 -3.67e-01 5.09e-01 6.52e-01  
## 57 -0.115499 -0.091596 0.074794 -5.16e-02 3.43e-02 -1.39e-01 6.48e-02  
## 58 0.012147 0.003463 -0.015935 1.50e-02 4.88e-03 2.09e-02 2.14e-03  
## 59 0.009006 0.025010 -0.030594 3.24e-02 3.60e-03 -1.13e-02 3.93e-02  
## 60 -0.079878 -0.072870 0.055845 -8.79e-02 -2.45e-02 -4.32e-02 3.13e-02  
## 61 0.030394 -0.076407 -0.122016 -1.35e-01 -1.57e-01 3.10e-02 -1.52e-01  
## 62 0.069807 0.029468 0.079706 9.40e-02 -2.21e-02 -7.29e-02 -2.20e-01  
## 63 -0.028306 0.030213 0.146011 -8.69e-02 -3.28e-02 -1.78e-02 -3.38e-01  
## 64 0.091055 0.121080 0.055167 1.72e-01 7.19e-02 1.95e-03 1.39e-01  
## 65 0.052824 -0.022924 -0.076611 -2.84e-02 -8.34e-02 2.21e-02 -8.35e-02  
## 66 0.003324 0.005420 -0.036229 3.30e-04 -8.66e-03 7.11e-03 -2.20e-02  
## 67 0.205471 0.244259 -0.227507 4.95e-01 8.08e-02 -2.10e-01 1.29e-01  
## 68 -0.007571 0.042217 0.028915 7.24e-02 7.49e-02 1.43e-02 -1.82e-02  
## 69 0.011864 -0.009845 0.025095 1.81e-03 -1.15e-02 1.08e-02 1.11e-02  
## 70 0.052299 -0.002919 -0.042997 4.28e-03 -3.19e-02 7.04e-02 4.94e-02  
## 71 -0.135690 0.005085 0.134550 1.39e-03 1.90e-01 2.70e-02 2.69e-02  
## 72 0.058769 -0.022317 -0.000148 2.92e-02 -8.14e-02 3.87e-02 -9.66e-02  
## 73 -0.000506 -0.001984 -0.002419 -1.77e-03 -2.36e-04 -9.31e-04 -2.45e-03  
## 74 0.000554 0.001145 0.007199 -4.16e-05 -2.22e-03 -3.02e-03 2.45e-03  
## 75 0.021018 0.010515 -0.020727 2.90e-02 -5.40e-03 4.49e-03 2.25e-02  
## 76 -0.011778 -0.004992 -0.000303 -1.03e-02 -5.18e-03 -1.17e-02 -1.38e-02  
## 77 -0.000420 -0.001720 0.005959 -1.63e-03 1.54e-03 -8.46e-04 -3.53e-03  
## 78 0.014715 0.011771 0.030968 2.92e-02 -2.67e-03 -4.55e-02 1.36e-02  
## 79 -0.119549 -0.023851 0.136161 3.54e-02 1.75e-01 3.92e-02 2.13e-02  
## 80 -0.022632 0.011279 -0.025558 4.28e-03 3.24e-02 5.01e-02 -5.10e-02  
## 81 -0.071817 -0.003992 0.110379 -2.49e-02 7.53e-02 -9.47e-02 1.18e-01  
## 82 -0.008641 -0.005090 0.010244 6.62e-03 5.62e-03 -8.70e-02 -1.09e-02  
## 83 -0.077111 -0.015819 0.007140 -4.86e-02 6.31e-02 2.70e-02 -1.84e-02  
## 84 0.028690 -0.009956 -0.006566 -1.77e-02 -2.97e-02 2.32e-02 -2.09e-02  
## 85 0.018736 -0.001498 0.128465 3.70e-03 -2.03e-02 -7.16e-02 3.58e-03  
## 86 0.082049 -0.038741 0.121054 -5.38e-02 -8.24e-02 -7.93e-02 9.31e-02  
## 87 0.056718 0.047959 -0.057585 1.29e-02 -3.46e-02 -3.32e-02 -1.95e-02  
## 88 0.032725 0.023917 -0.021930 1.06e-02 -2.15e-02 1.32e-02 2.00e-02  
## 89 -0.000172 0.003991 0.002771 1.40e-03 6.17e-04 -3.19e-03 1.02e-02  
## 90 0.009261 0.025440 -0.069032 -1.47e-02 -1.27e-02 6.04e-02 -1.17e-01  
## 91 0.018734 -0.013570 0.051294 -6.81e-02 -8.27e-02 -4.70e-02 -1.15e-01  
## 92 0.119912 0.066602 -0.072701 5.50e-02 -6.58e-02 1.83e-01 -1.61e-01  
## 93 -0.017858 -0.008478 0.015033 -1.19e-02 7.62e-03 -1.24e-02 1.48e-02  
## 94 0.061054 0.032877 -0.032476 5.41e-02 -2.42e-02 7.34e-02 -2.33e-02  
## 95 0.075746 0.055437 0.017017 5.34e-02 -2.76e-02 1.49e-02 -1.82e-02  
## 96 0.021733 0.029032 -0.026334 -1.89e-02 -3.55e-02 4.47e-02 5.16e-02  
## 97 -0.003000 -0.005011 0.031488 2.22e-03 9.01e-05 -8.89e-03 -1.00e-02  
## 98 -0.083924 -0.236332 0.046857 -1.27e-01 -5.66e-02 2.48e-01 -3.82e-01  
## 99 -0.053593 -0.007465 -0.032372 -9.73e-02 7.46e-03 -1.44e-02 -3.99e-02  
## 100 0.011829 0.053030 -0.036100 2.49e-02 2.38e-02 -8.22e-04 3.57e-03  
## 101 -0.005974 0.006482 0.013036 -1.06e-02 6.72e-03 -1.79e-02 -1.72e-02  
## 102 -0.013596 -0.025474 0.002033 1.67e-02 1.06e-02 1.04e-01 -1.98e-02  
## 103 -0.003232 -0.003231 -0.003501 -5.67e-03 -2.64e-03 2.16e-03 -3.33e-03  
## 104 0.004958 0.016096 0.021529 2.37e-02 1.52e-02 -2.92e-02 1.54e-02  
## 105 -0.018608 -0.010457 0.006631 -1.96e-02 3.71e-03 9.93e-03 -9.64e-03  
## 106 -0.013797 0.002943 -0.011098 -4.54e-03 6.57e-03 -1.96e-03 1.93e-02  
## 107 -0.031647 -0.000425 0.011038 -5.73e-02 7.09e-04 4.04e-02 -1.63e-03  
## 108 0.067401 0.022710 -0.036304 -2.25e-01 -2.09e-01 -1.03e-01 -2.13e-02  
## 109 -0.041264 0.008766 -0.049061 -1.14e-01 -9.79e-03 6.90e-02 -1.04e-01  
## 110 -0.002743 -0.005781 -0.019441 2.55e-03 -2.11e-04 1.76e-02 -2.22e-02  
## 111 -0.051785 -0.022863 -0.010743 1.36e-02 4.95e-02 4.62e-02 -4.12e-02  
## 112 0.008337 0.019426 0.004817 -1.95e-02 -4.15e-02 -1.73e-01 -1.22e-01  
## 113 0.038615 0.014630 -0.014344 -2.09e-02 -5.18e-02 -2.28e-02 -2.26e-03  
## 114 -0.056319 0.183480 -0.137230 4.60e-02 1.56e-01 -1.39e-01 1.10e-01  
## 115 0.007044 -0.000582 0.019181 3.82e-03 -1.35e-02 -2.62e-02 1.04e-02  
## 116 -0.000542 -0.000259 -0.001688 3.43e-04 4.06e-04 2.32e-04 -6.41e-05  
## 117 0.032219 -0.009679 0.023665 3.23e-02 -4.63e-02 -1.86e-02 1.14e-01  
## 118 0.005553 0.000121 -0.036728 2.03e-02 3.34e-03 3.61e-02 3.65e-02  
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## 120 0.145204 -0.062587 -0.058166 4.16e-01 -9.72e-02 -5.98e-01 4.15e-01  
## 121 0.000471 0.004695 -0.002398 -1.86e-03 1.41e-03 2.70e-03 -1.99e-03  
## 122 0.035284 0.023516 -0.031622 -7.75e-04 -3.41e-02 1.22e-03 8.54e-03  
## 123 -0.012535 0.032538 -0.048766 1.65e-03 1.98e-02 1.98e-02 3.38e-02  
## 124 -0.002410 0.000624 -0.002429 -3.68e-03 -1.97e-03 2.32e-03 1.28e-03  
## 125 0.133026 0.138894 -0.169760 8.44e-02 -4.58e-02 7.99e-05 -8.21e-02  
## 126 -0.011115 -0.020178 -0.027388 4.67e-02 4.57e-02 -1.02e-02 -9.76e-02  
## 127 0.001523 0.001975 0.000723 8.81e-04 -5.79e-04 -3.91e-04 1.54e-03  
## 128 0.005614 -0.000699 -0.017888 3.19e-03 -1.98e-04 1.23e-02 -2.20e-02  
## 129 0.030929 0.048713 -0.044250 -1.77e-03 -1.40e-02 1.48e-02 -6.29e-03  
## 130 -0.050937 0.042461 0.021350 -2.54e-02 6.35e-02 -2.09e-02 2.86e-02  
## 131 0.012213 0.001249 0.010880 -4.54e-03 -1.24e-02 1.25e-02 -1.31e-02  
## 132 -0.191314 -0.090325 -0.082167 -2.34e-02 1.27e-01 -3.27e-02 5.37e-02  
## 133 -0.004346 -0.001166 0.005644 -4.10e-05 4.80e-03 -3.69e-03 1.08e-04  
## 134 -0.035237 -0.011456 -0.083215 8.02e-02 8.55e-02 4.08e-02 -3.88e-02  
## 135 -0.020953 -0.028468 0.033658 3.27e-02 3.09e-02 -2.45e-03 4.08e-02  
## 136 -0.029840 -0.010879 0.031362 7.01e-03 3.12e-02 -4.82e-02 2.44e-02  
## 137 -0.059669 -0.100842 -0.079275 -4.41e-02 -3.10e-02 1.97e-01 -6.06e-02  
## 138 -0.011032 -0.164038 0.157758 -8.86e-02 -1.02e-01 2.43e-02 -3.91e-02  
## 139 -0.046482 0.020899 -0.006008 -4.62e-02 1.17e-02 -3.24e-03 -4.72e-03  
## 140 -0.059227 -0.022688 0.058551 -1.36e-02 5.73e-02 -1.02e-01 3.66e-02  
## 141 0.006867 -0.010719 0.020586 4.55e-03 -1.31e-02 -1.33e-02 1.25e-02  
## 142 0.063513 -0.074669 0.120265 5.34e-02 -6.68e-02 -1.26e-01 -1.84e-01  
## 143 -0.005705 -0.042156 0.004488 2.87e-02 3.10e-02 1.04e-02 -1.85e-02  
## 144 0.033292 0.038543 -0.066941 4.45e-02 -1.78e-03 3.36e-03 2.15e-02  
## 145 0.034110 0.000809 -0.088121 6.55e-02 3.82e-02 1.05e-01 -9.14e-05  
## 146 0.027678 -0.002371 0.010466 8.15e-03 -3.48e-02 -5.28e-03 8.53e-03  
## 147 0.546269 0.792358 -0.203485 5.68e-02 -2.01e-01 2.43e-01 -1.54e-01  
## 148 -0.032274 -0.031941 -0.037588 1.32e-02 2.70e-02 1.79e-02 1.02e-02  
## 149 -0.179731 -0.128591 0.021836 -4.88e-02 1.35e-01 2.67e-02 4.68e-02  
## 150 -0.062954 -0.060092 0.050811 -6.96e-03 3.36e-02 -3.46e-02 2.03e-03  
## 151 -0.015794 -0.092675 -0.001408 7.63e-02 6.78e-02 -7.11e-02 1.80e-02  
## 152 -0.017293 -0.054676 -0.025280 9.31e-02 5.44e-02 -3.39e-02 1.41e-04  
## 153 -0.020130 -0.080753 0.060499 -1.44e-02 -4.45e-02 -2.64e-03 1.66e-02  
## 154 0.008711 0.006620 -0.019929 6.96e-03 -1.17e-02 -2.74e-02 -5.80e-02  
## 155 -0.010617 -0.042467 -0.015363 1.14e-02 -6.21e-03 3.07e-02 1.50e-02  
## 156 -0.013722 0.024978 0.010942 -5.00e-03 2.96e-02 -1.54e-02 7.55e-03  
## dfb.x7 dfb.x8 dfb.x9 dfb.x10 dfb.x11 dfb.x12 dfb.x13  
## 1 2.08e-02 -2.59e-02 1.06e-02 0.009985 -4.03e-02 -0.007867 1.27e-02  
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## 7 1.86e-02 -3.29e-02 -1.86e-02 0.016160 4.86e-03 0.060906 -6.95e-03  
## 8 -6.03e-02 3.30e-02 6.28e-02 0.008619 -2.64e-02 -0.015161 1.27e-01  
## 9 -2.08e-02 2.26e-02 1.63e-02 0.001946 -1.03e-02 0.011500 -4.28e-02  
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## 11 -4.01e-02 1.14e-01 1.55e-01 -0.056278 -3.39e-02 0.014346 -2.36e-03  
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## 13 -3.64e-02 -6.41e-02 1.22e-01 -0.242818 -4.18e-01 0.178083 1.03e-02  
## 14 -1.43e-02 4.15e-02 1.95e-03 0.000590 3.00e-02 -0.000574 3.03e-03  
## 15 -1.66e-04 -3.58e-03 3.28e-03 0.015075 -9.17e-04 0.008162 -2.76e-02  
## 16 4.18e-02 -6.73e-03 5.97e-03 -0.000933 3.94e-02 -0.016772 -1.07e-02  
## 17 -5.74e-02 7.85e-02 8.19e-02 0.012403 1.86e-04 0.046498 -3.36e-02  
## 18 1.60e-02 -4.57e-02 4.97e-02 0.011583 -5.63e-02 0.105108 -6.21e-02  
## 19 2.82e-02 -4.05e-02 -3.62e-02 0.043052 -9.68e-03 -0.027121 2.76e-02  
## 20 -4.10e-03 4.26e-02 6.24e-02 -0.107909 -2.11e-02 0.139434 3.80e-02  
## 21 -1.01e-02 1.25e-01 1.02e-02 0.002479 1.44e-01 0.071868 -3.73e-02  
## 22 -2.84e-01 1.49e-01 -1.21e-01 -0.016565 1.12e-01 -0.118163 -1.42e-01  
## 23 4.62e-02 -1.07e-01 5.58e-03 0.075157 -8.32e-02 0.028101 -1.03e-01  
## 24 -2.75e-02 1.79e-02 -1.49e-02 -0.059725 -3.18e-02 0.025851 6.09e-02  
## 25 1.47e-01 -2.08e-01 -1.44e-01 0.219397 1.95e-02 0.327202 -4.29e-01  
## 26 -3.31e-02 4.10e-02 -5.36e-03 -0.219802 -7.25e-02 0.184213 -6.23e-02  
## 27 -4.05e-03 1.24e-02 2.29e-02 0.016718 1.29e-02 0.034105 -1.10e-02  
## 28 1.48e-01 -9.49e-02 -6.50e-02 0.039287 7.92e-02 -0.010488 6.78e-03  
## 29 9.79e-03 1.09e-01 3.67e-02 -0.057555 6.61e-02 0.029486 -5.74e-02  
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## 32 9.53e-02 -2.20e-02 7.35e-02 0.027327 -1.53e-02 -0.023368 3.10e-02  
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## 39 6.26e-04 7.39e-02 8.11e-03 -0.057047 6.58e-02 -0.014929 -8.78e-02  
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## 43 5.71e-03 -7.42e-03 -1.13e-02 -0.007220 -3.01e-03 0.001978 -2.26e-03  
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## 47 -5.28e-02 6.71e-02 1.07e-01 -0.090631 -7.78e-02 0.052500 6.17e-03  
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## 65 -8.02e-02 7.86e-02 7.48e-02 0.056445 -7.50e-02 -0.006363 -2.81e-02  
## 66 4.07e-02 -2.99e-02 -7.94e-05 0.003318 -5.82e-04 -0.009703 2.39e-02  
## 67 1.89e-01 -4.78e-01 -1.92e-01 0.112033 -9.65e-02 -0.442752 1.08e-01  
## 68 -5.44e-02 -1.66e-02 -7.35e-02 0.009310 1.70e-02 0.043868 -5.88e-02  
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## 90 9.01e-02 -6.32e-02 -5.36e-02 0.004885 -1.59e-03 -0.000132 1.13e-01  
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## 126 -1.01e-01 5.37e-02 -3.95e-02 0.073625 -1.32e-03 -0.014682 -3.61e-02  
## 127 -1.74e-04 -1.10e-03 -1.11e-03 -0.000900 -7.18e-04 -0.000345 -6.45e-06  
## 128 2.22e-03 -3.13e-03 1.74e-03 0.002042 -7.55e-03 0.003801 -4.09e-03  
## 129 -1.84e-02 -4.61e-03 -2.45e-02 -0.034539 -5.72e-03 -0.002933 2.13e-02  
## 130 1.24e-02 -1.31e-02 -7.43e-02 0.021879 8.03e-02 -0.023523 1.80e-03  
## 131 -1.01e-02 8.81e-03 8.15e-03 -0.009162 -1.52e-02 0.024566 -1.85e-02  
## 132 -8.15e-02 1.09e-01 -8.64e-02 0.001916 1.70e-01 -0.004671 1.76e-01  
## 133 -3.26e-03 2.62e-03 -9.96e-04 0.004715 3.82e-03 0.001917 -9.71e-03  
## 134 -7.28e-02 1.35e-02 -8.68e-02 -0.022003 3.60e-02 0.012531 6.26e-02  
## 135 -3.45e-02 1.83e-02 -1.55e-02 -0.013482 6.24e-03 -0.013713 5.91e-03  
## 136 3.36e-03 -1.70e-03 -3.06e-03 0.027552 2.85e-02 0.001260 -1.17e-02  
## 137 6.35e-02 2.31e-02 -3.06e-02 -0.223151 6.81e-03 0.085403 1.64e-01  
## 138 1.88e-01 -1.81e-02 1.40e-01 -0.064802 -4.77e-02 0.006340 -1.38e-01  
## 139 1.99e-02 3.03e-03 -4.58e-02 0.003928 6.47e-02 0.010658 2.00e-03  
## 140 -1.21e-01 9.95e-02 -2.74e-03 0.111582 7.30e-02 -0.119904 -1.23e-02  
## 141 -2.09e-03 3.27e-03 2.60e-02 0.001363 -1.70e-02 0.020152 -2.59e-02  
## 142 -1.04e-01 7.50e-02 1.35e-01 0.147787 -1.00e-01 -0.041099 -5.65e-02  
## 143 -3.18e-02 2.26e-02 2.08e-02 0.001168 -1.80e-02 0.023173 -1.02e-02  
## 144 1.06e-01 -1.11e-01 -3.49e-02 0.010134 -7.97e-03 -0.069519 1.33e-01  
## 145 5.10e-02 -7.11e-02 -7.22e-02 -0.056526 -4.18e-02 0.113149 5.99e-02  
## 146 2.62e-03 -5.17e-03 3.71e-02 -0.002407 -3.86e-02 0.004884 -1.00e-02  
## 147 -1.67e-01 -2.29e-01 -1.92e-01 -0.080539 -3.28e-01 0.328273 4.49e-02  
## 148 2.17e-02 -8.95e-03 -3.04e-02 -0.011562 2.88e-02 -0.041039 3.15e-02  
## 149 -2.23e-03 7.62e-02 -2.60e-02 -0.038788 1.50e-01 -0.011955 2.43e-02  
## 150 1.20e-02 1.85e-02 2.27e-02 0.026099 3.72e-02 0.004855 -6.60e-03  
## 151 -2.38e-01 1.60e-01 1.82e-02 0.131871 -3.45e-02 0.161886 -1.73e-01  
## 152 6.53e-04 -2.86e-02 -6.98e-03 0.031810 -6.08e-03 0.016790 4.20e-03  
## 153 -5.41e-02 7.70e-02 1.00e-01 -0.030939 -2.16e-02 -0.085613 5.67e-02  
## 154 1.30e-02 -1.55e-02 2.14e-02 0.057068 -1.18e-02 -0.021781 3.00e-03  
## 155 3.76e-02 -1.54e-02 1.28e-02 -0.035728 -1.11e-02 -0.016068 4.57e-02  
## 156 -8.65e-03 -1.05e-03 -3.33e-02 0.006798 3.31e-02 0.008255 -5.62e-03  
## dfb.x14 dffit cov.r cook.d hat inf  
## 1 0.047625 -0.14440 1.260 1.40e-03 0.1301   
## 2 -0.061331 0.47189 1.290 1.49e-02 0.2109   
## 3 -0.218293 -0.38577 1.414 9.96e-03 0.2497 \*  
## 4 -0.032530 -0.66468 0.900 2.90e-02 0.1208   
## 5 0.064340 0.87047 0.840 4.94e-02 0.1520   
## 6 -0.034833 -0.36431 0.949 8.78e-03 0.0601   
## 7 0.005626 0.23838 1.224 3.80e-03 0.1281   
## 8 -0.001647 0.30272 1.223 6.13e-03 0.1424   
## 9 -0.024636 -0.10794 1.242 7.82e-04 0.1129   
## 10 -0.024560 0.35817 0.988 8.51e-03 0.0675   
## 11 0.047799 -0.33106 1.452 7.34e-03 0.2591 \*  
## 12 0.022178 -0.05486 1.201 2.02e-04 0.0774   
## 13 -0.132729 -0.75543 0.801 3.72e-02 0.1173   
## 14 0.051377 0.13068 1.266 1.15e-03 0.1315   
## 15 -0.006473 0.07840 1.323 4.13e-04 0.1618 \*  
## 16 -0.057345 -0.11108 1.175 8.28e-04 0.0694   
## 17 -0.059182 -0.20285 1.238 2.76e-03 0.1280   
## 18 -0.085648 0.19002 1.089 2.41e-03 0.0501   
## 19 0.046360 -0.20403 1.210 2.79e-03 0.1124   
## 20 -0.142422 0.28702 1.104 5.50e-03 0.0841   
## 21 -0.075481 -0.31986 1.113 6.82e-03 0.0969   
## 22 0.107210 -0.64697 0.825 2.74e-02 0.0988   
## 23 0.016395 0.26240 1.139 4.60e-03 0.0917   
## 24 0.016348 -0.21547 1.157 3.11e-03 0.0869   
## 25 -0.020063 0.92036 0.531 5.38e-02 0.0950 \*  
## 26 0.014057 0.43807 1.078 1.28e-02 0.1162   
## 27 -0.020991 -0.08228 1.352 4.54e-04 0.1797 \*  
## 28 0.019058 -0.28460 1.104 5.40e-03 0.0835   
## 29 -0.003887 0.26598 1.264 4.74e-03 0.1551   
## 30 0.068060 0.10729 1.261 7.72e-04 0.1254   
## 31 0.000114 0.16284 1.156 1.78e-03 0.0721   
## 32 0.031600 -0.19985 1.102 2.67e-03 0.0579   
## 33 0.007214 -0.32907 1.070 7.21e-03 0.0838   
## 34 -0.017566 0.12408 1.142 1.03e-03 0.0534   
## 35 -0.079318 -0.15353 1.227 1.58e-03 0.1110   
## 36 0.008202 -0.08589 1.217 4.95e-04 0.0930   
## 37 -0.014583 -0.04605 1.262 1.42e-04 0.1200   
## 38 -0.076559 -0.57545 0.862 2.17e-02 0.0910   
## 39 0.001275 -0.22860 1.190 3.50e-03 0.1073   
## 40 -0.027764 -0.27730 1.008 5.11e-03 0.0512   
## 41 -0.019715 -0.32683 1.048 7.11e-03 0.0760   
## 42 0.035233 -0.08990 1.119 5.42e-04 0.0318   
## 43 0.006248 -0.03089 1.171 6.41e-05 0.0517   
## 44 0.034520 -0.13554 1.214 1.23e-03 0.0996   
## 45 -0.017279 0.05601 1.203 2.11e-04 0.0790   
## 46 0.020640 0.33354 0.959 7.37e-03 0.0547   
## 47 -0.087124 0.25923 1.128 4.49e-03 0.0860   
## 48 0.107405 0.82141 1.085 4.45e-02 0.2131   
## 49 -0.004050 0.04642 1.201 1.45e-04 0.0758   
## 50 0.017579 0.11993 1.212 9.65e-04 0.0954   
## 51 -0.008216 0.04175 1.283 1.17e-04 0.1341   
## 52 0.009891 -0.18509 1.073 2.29e-03 0.0434   
## 53 0.014602 0.33992 1.060 7.69e-03 0.0835   
## 54 -0.001526 0.02170 1.224 3.16e-05 0.0915   
## 55 -0.001342 0.01867 1.168 2.34e-05 0.0480   
## 56 -0.120725 1.33922 0.520 1.13e-01 0.1651 \*  
## 57 0.094683 0.27570 1.155 5.08e-03 0.1028   
## 58 -0.014997 0.04689 1.260 1.48e-04 0.1187   
## 59 0.057703 -0.12917 1.137 1.12e-03 0.0524   
## 60 0.020094 0.22830 1.144 3.49e-03 0.0843   
## 61 -0.025416 0.37004 0.840 9.00e-03 0.0427   
## 62 0.107453 -0.43537 0.961 1.25e-02 0.0803   
## 63 0.131412 -0.57118 1.045 2.16e-02 0.1398   
## 64 0.137994 -0.45045 1.262 1.35e-02 0.1942   
## 65 0.012563 -0.18567 1.142 2.31e-03 0.0714   
## 66 0.002650 0.06769 1.208 3.07e-04 0.0837   
## 67 0.237501 0.95283 0.419 5.68e-02 0.0812 \*  
## 68 -0.042647 0.22464 1.062 3.37e-03 0.0516   
## 69 -0.027805 0.06643 1.183 2.96e-04 0.0661   
## 70 -0.173352 -0.23127 1.163 3.58e-03 0.0944   
## 71 -0.022296 -0.41904 0.897 1.16e-02 0.0624   
## 72 0.018986 0.41399 1.240 1.14e-02 0.1761   
## 73 0.000347 0.00982 1.262 6.47e-06 0.1184   
## 74 0.004834 -0.01620 1.150 1.76e-05 0.0335   
## 75 0.010351 -0.08274 1.130 4.59e-04 0.0348   
## 76 0.026582 0.05537 1.227 2.06e-04 0.0960   
## 77 -0.006225 -0.02283 1.170 3.50e-05 0.0499   
## 78 0.020628 0.19227 1.148 2.47e-03 0.0764   
## 79 -0.031225 -0.37860 1.022 9.52e-03 0.0822   
## 80 0.024019 -0.12613 1.156 1.07e-03 0.0619   
## 81 -0.011868 -0.21745 1.244 3.17e-03 0.1345   
## 82 -0.010964 0.16167 1.214 1.75e-03 0.1048   
## 83 -0.067789 0.17479 1.128 2.04e-03 0.0616   
## 84 -0.102913 -0.14928 1.158 1.49e-03 0.0697   
## 85 0.031954 -0.18905 1.126 2.39e-03 0.0650   
## 86 0.027359 0.95740 0.410 5.73e-02 0.0805 \*  
## 87 -0.028501 -0.22619 1.082 3.41e-03 0.0584   
## 88 -0.002442 -0.09574 1.161 6.15e-04 0.0570   
## 89 0.007015 -0.01945 1.153 2.54e-05 0.0359   
## 90 0.042125 -0.25025 1.141 4.19e-03 0.0894   
## 91 0.046976 0.29908 1.076 5.96e-03 0.0772   
## 92 0.017850 -0.33641 1.070 7.53e-03 0.0859   
## 93 -0.022493 0.05899 1.162 2.34e-04 0.0493   
## 94 0.043296 -0.18539 1.142 2.30e-03 0.0714   
## 95 0.074016 0.15991 1.279 1.72e-03 0.1443   
## 96 0.038731 0.17068 1.244 1.95e-03 0.1248   
## 97 0.012795 -0.05725 1.202 2.20e-04 0.0780   
## 98 -0.015190 0.63268 0.684 2.59e-02 0.0700   
## 99 -0.005366 -0.22176 1.162 3.29e-03 0.0912   
## 100 -0.011701 -0.19549 1.126 2.56e-03 0.0666   
## 101 -0.044180 0.16330 1.137 1.79e-03 0.0625   
## 102 -0.029554 0.22281 1.073 3.31e-03 0.0543   
## 103 0.000767 -0.01122 1.264 8.45e-06 0.1201   
## 104 0.004987 -0.06541 1.170 2.87e-04 0.0566   
## 105 -0.019922 0.06456 1.186 2.80e-04 0.0679   
## 106 0.021580 -0.05148 1.168 1.78e-04 0.0523   
## 107 0.014693 -0.13337 1.234 1.19e-03 0.1118   
## 108 -0.007882 -0.49882 1.089 1.65e-02 0.1361   
## 109 -0.092575 0.28237 1.179 5.33e-03 0.1160   
## 110 0.019939 -0.04560 1.186 1.40e-04 0.0649   
## 111 0.068517 -0.22747 1.128 3.46e-03 0.0769   
## 112 0.056878 -0.29795 1.073 5.91e-03 0.0758   
## 113 0.008318 -0.11829 1.232 9.39e-04 0.1077   
## 114 0.009484 -0.44622 0.991 1.32e-02 0.0911   
## 115 0.003064 -0.05371 1.216 1.94e-04 0.0878   
## 116 0.000774 -0.00275 1.187 5.07e-07 0.0626   
## 117 0.056698 -0.24335 1.149 3.96e-03 0.0911   
## 118 0.018826 -0.09038 1.202 5.48e-04 0.0833   
## 119 -0.019575 0.52016 0.707 1.76e-02 0.0532   
## 120 0.163562 1.32719 0.345 1.08e-01 0.1220 \*  
## 121 -0.002974 0.01472 1.158 1.46e-05 0.0398   
## 122 0.011607 -0.09987 1.131 6.69e-04 0.0406   
## 123 0.025818 -0.10864 1.148 7.91e-04 0.0528   
## 124 0.007181 0.01313 1.254 1.16e-05 0.1128   
## 125 -0.033156 -0.30240 1.057 6.09e-03 0.0719   
## 126 0.038168 -0.18202 1.372 2.22e-03 0.2007 \*  
## 127 0.002071 0.00428 1.232 1.23e-06 0.0968   
## 128 -0.017803 -0.03786 1.196 9.62e-05 0.0714   
## 129 0.003120 0.11002 1.206 8.12e-04 0.0893   
## 130 0.019661 -0.15826 1.112 1.68e-03 0.0495   
## 131 -0.007751 0.03893 1.218 1.02e-04 0.0877   
## 132 0.082429 -0.38987 1.074 1.01e-02 0.1019   
## 133 -0.000142 -0.01394 1.200 1.31e-05 0.0727   
## 134 -0.030230 0.24322 1.187 3.96e-03 0.1095   
## 135 0.015073 -0.10491 1.151 7.38e-04 0.0532   
## 136 0.011901 -0.06590 1.240 2.92e-04 0.1060   
## 137 0.050503 -0.41547 1.046 1.15e-02 0.0995   
## 138 0.046067 0.44806 1.178 1.34e-02 0.1575   
## 139 0.073184 0.13555 1.344 1.23e-03 0.1796 \*  
## 140 0.005363 0.24560 1.162 4.03e-03 0.0979   
## 141 0.003710 -0.05035 1.220 1.70e-04 0.0902   
## 142 0.028638 0.37492 1.042 9.34e-03 0.0873   
## 143 -0.084609 -0.13049 1.178 1.14e-03 0.0762   
## 144 -0.004083 0.22810 1.042 3.47e-03 0.0466   
## 145 -0.075691 0.30269 0.980 6.08e-03 0.0514   
## 146 0.009296 -0.06951 1.147 3.24e-04 0.0417   
## 147 -0.278889 -1.12302 0.856 8.19e-02 0.2106 \*  
## 148 0.022225 0.09319 1.239 5.83e-04 0.1089   
## 149 -0.113627 -0.23882 1.379 3.82e-03 0.2112 \*  
## 150 0.000982 -0.12824 1.165 1.10e-03 0.0677   
## 151 -0.013824 0.44726 1.044 1.33e-02 0.1072   
## 152 -0.007612 0.16107 1.403 1.74e-03 0.2150 \*  
## 153 -0.016795 -0.26960 1.158 4.86e-03 0.1023   
## 154 0.011645 -0.10927 1.222 8.01e-04 0.0998   
## 155 0.005109 -0.09779 1.266 6.42e-04 0.1275   
## 156 -0.011386 0.07915 1.283 4.21e-04 0.1364

From this we can see there are 14 possible influential observations, these infuential observations are related to players Xantares, HEN1, Calyx, dupreeh, ropz, flusha, JW, gla1ve, pashaBiceps, Relyks, Dima, Karrigan, ngiN, and MSL. Interesting note is that 4 of these players, dupreeh, flusha, JW, and gla1ve have the max amount of possible Major Titles currently while PashaBiceps has 1 title and the rest have 0.

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-3, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-11, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-15, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-25, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-27, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-56, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-67, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-86, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-120, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-126, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-139, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-147, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-149, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

##   
## Call:  
## lm(formula = y ~ x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9 +   
## x10 + x11 + x12 + x13 + x14, data = dat[-152, ])  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.24713 -0.38314 -0.09235 0.36680 2.07730   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -7.020e-01 1.004e+01 -0.070 0.94435   
## x1 3.209e-04 3.513e-04 0.914 0.36248   
## x2 1.586e-01 8.365e-01 0.190 0.84989   
## x3 -8.697e-04 5.146e-04 -1.690 0.09324 .   
## x4 -4.946e+00 7.291e+00 -0.678 0.49865   
## x5 -6.154e-02 6.128e-02 -1.004 0.31698   
## x6 4.780e-02 6.486e-02 0.737 0.46237   
## x7 3.474e-02 1.166e-02 2.978 0.00342 \*\*  
## x8 -8.815e-04 6.419e-04 -1.373 0.17184   
## x9 4.941e+00 1.145e+01 0.431 0.66677   
## x10 1.188e+01 7.832e+00 1.516 0.13168   
## x11 7.416e+00 1.224e+01 0.606 0.54556   
## x12 -1.953e+01 8.024e+00 -2.434 0.01617 \*   
## x13 -1.067e+01 6.508e+00 -1.639 0.10339   
## x14 2.118e+00 2.925e+00 0.724 0.47007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.6479 on 141 degrees of freedom  
## Multiple R-squared: 0.4055, Adjusted R-squared: 0.3464   
## F-statistic: 6.868 on 14 and 141 DF, p-value: 1.383e-10

After removing an individual player, I saw no difference to the value or the y-intercept value across all removals.