1.

Model used: Linear regression

Equation: house\_price = 138.75\*var3 + 61851.51

House price forecast result: 290796.8

This model keeps var3 as the only predictor for the following reasons:

var1 and var2 are both right skewed and applying logarithmic transformation was not helpful. They are not statistically significant predicators. Though var4 is statistically significant when no other predicator is present, it becomes insignificant when var3 is controlled for. As this is not about a particular coefficient but more about finding a best model to predict house price, I am excluding all of them.

2.

Model used: Multinomial logistic regression

Movies this user might be highly interested in (**rated 5**) listed in the table below:

|  |
| --- |
| Four Rooms\_1995 |
| Seven (Se7en)\_1995 |
| From Dusk Till Dawn\_1996 |
| Braveheart\_1995 |
| Desperado\_1995 |
| Star Wars\_1977 |
| Pulp Fiction\_1994 |
| Stargate\_1994 |
| Nightmare Before Christmas, The\_1993 |
| Home Alone\_1990 |
| Aladdin\_1992 |
| Terminator 2: Judgment Day\_1991 |
| Dances with Wolves\_1990 |
| Rock, The\_1996 |
| Independence Day (ID4)\_1996 |
| Godfather, The\_1972 |
| 2001: A Space Odyssey\_1968 |
| Sound of Music, The\_1965 |
| Die Hard\_1988 |
| Willy Wonka and the Chocolate Factory\_1971 |
| Reservoir Dogs\_1992 |
| Monty Python and the Holy Grail\_1974 |
| Empire Strikes Back, The\_1980 |
| Princess Bride, The\_1987 |
| Raiders of the Lost Ark\_1981 |
| Aliens\_1986 |
| Good, The Bad and The Ugly, The\_1966 |
| Apocalypse Now\_1979 |
| GoodFellas\_1990 |
| Psycho\_1960 |
| Right Stuff, The\_1983 |
| Terminator, The\_1984 |
| Nikita (La Femme Nikita)\_1990 |
| Unforgiven\_1992 |
| Cape Fear\_1991 |
| Nightmare on Elm Street, A\_1984 |
| Sling Blade\_1996 |
| Star Trek VI: The Undiscovered Country\_1991 |
| Star Trek IV: The Voyage Home\_1986 |
| Young Guns\_1988 |
| Jaws\_1975 |
| Raising Arizona\_1987 |
| Good Will Hunting\_1997 |
| Time to Kill, A\_1996 |
| L.A. Confidential\_1997 |
| Apt Pupil\_1998 |
| As Good As It Gets\_1997 |
| Schindler's List\_1993 |
| Game, The\_1997 |
| Wag the Dog\_1997 |
| One Flew Over the Cuckoo's Nest\_1975 |
| Dangerous Minds\_1995 |
| Mrs. Doubtfire\_1993 |
| Batman\_1989 |
| Alice in Wonderland\_1951 |
| American Werewolf in London, An\_1981 |
| Birds, The\_1963 |
| Carrie\_1976 |
| Tombstone\_1993 |
| Trainspotting\_1996 |
| Vertigo\_1958 |
| Dumbo\_1941 |
| Boot, Das\_1981 |
| Gandhi\_1982 |
| Shine\_1996 |
| Rob Roy\_1995 |
| Die Hard: With a Vengeance\_1995 |
| Species\_1995 |
| Waterworld\_1995 |
| Demolition Man\_1993 |
| Wild Bunch, The\_1969 |
| Primal Fear\_1996 |
| Rear Window\_1954 |
| In the Line of Fire\_1993 |
| Ransom\_1996 |
| Real Genius\_1985 |
| Happy Gilmore\_1996 |
| Hard Target\_1993 |
| Inspector General, The\_1949 |
| Fear\_1996 |
| Fearless\_1993 |
| Doors, The\_1991 |
| Blue Sky\_1994 |
| Higher Learning\_1995 |
| Jason's Lyric\_1994 |

Extension:

* Obtain public data (imdb) on film genre, director, country for a better estimation
* there might be multi-colinearity