Hypothesis Testing 1:

P= Proportion of people watching horror movies alone alpha=0.05 i.e. 5% risk of type I

Null Hypothesis:

P >= ½(p0)

Alternative Hypothesis:

P < ½(p0)

n*p0=355*1/2=177.5>=5 and n*(1-p0)>=5

Hence we can approximate the P of the population as ~N[p0,(p0(1-p0)/n)]

Mean= p0,variance=(p0(1-p0)/n)

(P-p0)/(sqrt(variance))=Z*

Z*=-3.556

P-value approach:

Pr(Z<=Z*)=Pr(Z<=-3.556)=0.000188

p-value <= alpha

hence we reject null hypothesis .

Rejection region approach:

P(x<Z) = 0.05,

Z_{0.05}=-1.645 on the left of standard normal

Z*<=-1.645

Hence we reject null hypothesis

Hypothesis Testing 2:

Data based **How much money do you spend on watching Movies per month(in theaters + OTT subscription):**

Null Hypothesis: Data collected follows normal distribution

Alternative Hypothesis: Data collected doesn't follow normal distribution

From QQ plot for it:

Data doesn't follow normal distribution as the curve obtained is very far from straight line

https://github.com/gunjitmittal/Stats-Project/blob/main/Normalitycheck/QQplt1.png

Hypothesis Testing 3:

Data based **How much hours do you generally spend on Movies in a strech.**

Null Hypothesis: Data collected follows normal distribution

Alternative Hypothesis: Data collected doesn't follow normal distribution

From QQ plot for it:

Data Distribution is near to normal distribution as the curve obtained is similar to straight line to most extent.

https://github.com/gunjitmittal/Stats-Project/blob/main/Normalitycheck/QQplt2.png

Hypothesis Testing 4:

Data based **How much hours do you generally spend on Movies in a week.**

Null Hypothesis: Data collected follows normal distribution

Alternative Hypothesis: Data collected doesn't follow normal distribution

From QQ plot for it:

https://github.com/gunjitmittal/Stats-Project/blob/main/Normalitycheck/QQplt3.png