The entropy inequalities checked are:

$H(x) >= 0$ and $H(x) <= \log(N)$ where N is the size of the probability vector

$H(f(x)) <= H(X)$

$H(X|Y) <= H(X)$

The Function receive the inputs and with a triple for loop compute the joint distribution and the function distribution. For the first one the results are stored in a Map, because is easier to work with keys instead of indices.

The entropies are computed using the function provided in the lectures of the course.
Finally, to obtain the conditional entropy is sufficient to subtract the joint entropy from the entropy of that random variable.