```
L = 100; (*sequence length*)
repsp = 10; (*times we use the same probability value p*)
dp = 0.01; (*probability steps' size*)

numexp = (1/dp); (*number of sequences*)
complexity = Table[0, repsp]; (*list to save the K-complexities for the same p value*)
entropy = Table[0, repsp];  (*list to save the entropies for the same p value*)
compress = Table[0, repsp]; (*list to save the file sizes of c. seqs. for the same p value*)
Ckolmo = Table[0, numexp + 1]; (*list to save the K-complexity for each p value*)
ShannonEntropy = Table[0, numexp + 1]; (*list to save the entropy for each p value*)
complexcompress = Table[0, numexp + 1];  (*list to save the file size for each p value*)

Do[
  Do[
    output = Table[RandomChoice[Rule[{1 - p, p}, {0, 1}]], L]; (*random binary sequence*)
    If[First[output] == 0, output = "0" <> ToString[FromDigits[output]], output =
ToString[FromDigits[output]]]; (*transform the list into a string*)

    complexity[[j]] = StringBDM[output];
    entropy[[j]] = Entropy[ToString[FromDigits[output]]];
    Export["C:\file_directory\name.txt.gz", output];
    compress[[j]] = QuantityMagnitude[FileSize["C:\file_directory\name.txt.gz"], "Bits"]
    , {j, repsp}];

    (*we perform a trimmed mean discarding the first and fourth quartiles*)
Ckolmo[[(p*numexp) + 1]] = TrimmedMean[complexity, {(Length[Select[complexity, # <
Quantile[complexity, 1/4] &]])/Length[complexity], (Length[Select[complexity, # >
Quantile[complexity, 3/4] &]])/Length[complexity]}];
  ShannonEntropy[[(p*numexp) + 1]] = TrimmedMean[entropy, {(Length[Select[entropy, # <
Quantile[entropy, 1/4] &]])/Length[entropy], (Length[Select[entropy, # > Quantile[entropy, 3/4]
&]])/Length[entropy]}];
  complexcompress[[(p*numexp) + 1]] = TrimmedMean[compress, {(Length[Select[compress, # <
Quantile[compress, 1/4] &]])/Length[compress], (Length[Select[compress, # > Quantile[compress,
3/4] &]])/Length[compress]}];
  , {p, 0, 1, dp}]

    (*we can plot the results*)
ListLinePlot[{Rescale[Ckolmo, {0, Max[Ckolmo]}], Rescale[ShannonEntropy, {0,
Max[ShannonEntropy]}], Rescale[complexcompress, {0, Max[complexcompress]}]}, DataRange -> {0, 1},
AxesLabel -> Automatic, PlotRange -> All, PlotLegends -> Placed[{"Kolmogorov Complexity",
"Entropy", "File Size (GZIP)"}, {.5, .2}], Frame -> True, FrameLabel -> {"p(0→1)", "C(S)"},
GridLines -> Automatic];
```