

## Assignment 02

### A.

uqme, glmb, gam, cnmm, olqt, hyit, towl, nsxa, vrih, fdeb, ellu, ipvt, ebfs, kike, irue, adij, oaio, mcqc, hcgs, ybcp, icvi, lexe, aapc, giuf, uhif, oakq, nqdm, buqg, ayau, mxzj, zvjj, oaag, jgpk, aniy, tbme, tgfs, iwlz, lrsp, rcly, pglf, taaz, xjzp, czfl, ephy, ijcs, utud, lcfr, vkhe, msww, vxoa, xiyl, twsk, wszl, blje, risw, bdky, ladn, vqol, qmnw, tqob, iwue, nnxo, hvwr, yjsv, lsow, apzw, udzr, xtgx, nbrv, uemz, qmwd, nrtz, ucgy, mbsf, rtzi, lnjm, nxxz, nfxo, clbp, acpo, qhiw, pgtb, ywha, frqn, fjcb, ckif, dskq, gfiw, dwnw, fxfl, awho, bkzu, sbjj, xtft, nowd, ionp, ktpn, qayw, iwt, cxnu

### B.

adv, ieor, trio, oyen, mrya, tuca, loun, lidu, semk, amur, oyly, aete, yhor, ueli, wwhe, iota, yeoa, hekt, ofef, eooi, hhoe, ewrn, ooot, tdky, olio, efoa, llhu, ltlf, iiwe, kalm, dost, lwrs, dhyo, bnym, fnnw, ltni, sasw, sooi, wiii, ucdi, lrou, nkai, cpmt, sthh, ohio, niae, aidn, nnat, eyti, eoor, finl, weai, tdiu, yimp, kdoi, iosr, rien, uoet, tdll, melt, maww, raea, rtod, iwat, insi, erla, korn, wiii, atat, seoe, yeib, nonn, oddn, ntad, smns, inee, dodu, iowd, inea, inlo, otet, eeod, hdml, nsmu, tuse, fedo, eiet, owtd, dlir, tuum, ooyd, irtl, duud, tmdt, yisk, iowe, ttua, velh, owwr, azyl

### C.

(use the letters inside and between a word)

eidl, otbu, dnid, urke, utsp, buld, spay, amei, thet, spai, sein, fric, onot, litl, nker, ouwo, etld, widn, ngam, nota, thei, odyo, notm, twik, ouwi, myou, lnom, eido, heme, apat, eeno, midf, tham, eert, udot, dewi, abul, fafr, otill, dous, otill, ntin, rita, outh, noun, yhak, hith, noul, othe, ulnu, otou, sfrt, outs, mama, mami, oudn, ldey, ikem, woyo, usom, erta, ourf, onor, mitr, utll, tldn, thei, like, eath, tidn, anou, dywo, otin, nwit, span, otho, lino, ewdn, your, trei, ywou, ulno, msal, ota, wats, enou, ikak, itli, ouli, oure, thar, ommy, itar, ozil, ulli, satl, mili, grou, enid, wome

(use only the letters inside a word)

tsou, meve, mats, ifil, ithe, ulit, done, here, here, lamy, coul, wifa, thik, keno, illd, inou, noma, iker, ewot, ther, eer, ider, iker, eree, doth, uldo, yots, ouli, thet, afal, toul, iler, itou, itra, ifrk, doth, othe, same, dlil, adot, amew, fama, anot, doth, noul, noth, ataf, mado, oudo, eath, llet, oull, oule, otam, when, otee, ithe, your, cher, paid, tevi, mike, ken, inot, onou, anot, yotr, onon, ithe, enou, amam, othe, iler, coma, doth, othe, thev, spal, dere, espa, iket, noth, unco, ldot, llet, deam, othe

coul reto othe nore emil ore a ywou thew nket buld ulit uler lame

**D.**

Suppose to satisfy the Markov property.

So

$$p(x_n | x_{n-1}, x_{n-2}, \dots, x_1) = p(x_n | x_{n-1})$$

So just use the metrx of question C .

wder noul yoth endo eree meer otsp doul otha erew llik mema here youd ould eath urer  
lyom oudo ilen ldom doul ikem eevi mayo mere woul amer roth ouli eath wher thur  
thee pade lent erad noul ther yomi noul ethe unco woth idom heer dore inot eyou ewot  
inot noul udee anou ywhe knot mike iker wike ildo tspa amik ould oure soth like inou  
myre deve youd noth lldo aith othe othe eeno ikee whem inot kets eeth ithe spam ddot  
oull mero dere ithe lyom kere youl ifre ikee erer noes yoem yoth like frat linc

**E.**

Repeat parts 2b-2d using the “saki story.txt”.

**B on “saki story.txt”**

oibo hsam aeao hlom knba eudc ehti dira atop bmoo mruo ufoh ihao suaa tnan oaid dsol  
ubnl heft aofe mhko emyl elat tssa uinl orln ieas dsoh ehwe stht penb eemo eoah sedg  
otah snnt iust baoo ehlr oieg rlag hlad irne imil edmf naee vnao nies tear nrsl couo rnlt  
heia haih euui kwwt nclt ngoa anmr newe dits voti cpid dilj ieoe wtso ysho sics ssbe  
slan rsnf auer utza lnnt tyee wurt ltnt atts maiw stde surd wtoe eorh sogh atlt fuul seae  
thhn ufod droa teac near cann oeiy neht rrel resb oetu arph dahu

**C on “saki story.txt”**

(use the letters inside and between a word)

nont onec uthe eree ebat cred leit uany dini cerd tilm once eren ieou nten orek esce youl  
tzeo ghew goti memp arve mict ofew plld lang nadi veof grwh ulor nofa ngha uler lesu  
sdof atos owoo satl hedo dntn bofo harn hoob voce reti neso ltic titi tfom ndfr ogio utjo

aryt imee ties gsst ldgs evom ssst sind onew dthh lldt dthi ndte uldy ndtl aldo sthe ndou  
isef iong ghin thec alst empe hier ubat eohe irom ngil lyin heea ilst ayas rwof stis olld  
heea lash wasc wars cred neli chec orer kego mato ulll

(use only the letters inside a word)

erin otld stht toul thel asto esub onth beag nlyh eron thad leed erac wlig hedi lvou irea  
ngsi indo plab nghe nern thal atrg nest nder vito ouri nerc ucre ilyi oofa spom deco wind  
ftin yera ngea anan sexp cepe erok uder than erns eaiv tser acur opof chen aprd metl  
aner deca andi herw eten nken nese ange veng stca lyea long ovea dyma ilay adsh rdse  
ting edio eroo deat scoy rong enor itha owen hane lsat cono omby sees erng soun athe  
rnon lyoe sere thmo nten mean eras ther seme ofou ches ofon mudo

### **D on “saki story.txt”**

hind rant tlit eren peny lesh inch rtam ling thar sere lses thid nrec reic anye erer mait  
esou ayit rywa erou edsh fath nyed feai dola itha hele hero tong herl iele yeve ongr engr  
edly erth soou orng wdes rywo yicr hith wang ofis ghen hedo rung amme hery anya  
frye idss oker aryo eapp sugo hers oler enge wind anve uthe mest erom deds wldi plyi  
ofry sher erer area them rast ragg ongu hedu seng rrey vono ngot rgil psbo myis ssta  
syp tigr aine trad hins ndfa teme oist edit ther ardt dlss hefa iche

### **F**

From question a to question d, we gradually added the transition matrix  
and the Markov property, and it is clear that the resulting four-letter word  
is becoming more and more "real". When we add more complex  
components, the resulting words are sure to be better