Лабораторная работа № 4
по курсу «Криптография»

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Группа: 8О-308Б

Москва, 2020

Постановка задачи

Сравнить 1) два осмысленных текста на естественном языке, 2) осмысленный текст и текст из случайных букв, 3) осмысленный текст и текст из случайных слов, 4) два текста из случайных букв, 5) два текста из случайных слов.

Как сравнивать: считать процент совпадения букв в сравниваемых текстах – получить дробное значение от 0 до 1 как результат деления количества совпадений на общее число букв. Расписать подробно в отчёте алгоритм сравнения и приложить сравниваемые тексты в отчёте хотя бы для одного запуска по всем пяти подпунктам. Осознать какие значения получаются в этих пяти подпунктах. Привести свои соображения о том почему так происходит.

Длина сравниваемых текстов должна совпадать. Привести соображения о том какой длины текста должно быть достаточно для корректного сравнения.

Метод решения

В качестве осмысленных текстов я взял 4 текста с сайта www.gutenberg.org. При каждом запуске программы осмысленные тексты выбираются случайно из предложенных. Для генерации текста из случайных слов используется словарь. Тест из случайных букв генерируется из букв английского алфавита. Все тексты имеют одинаковую длину.

Ссылка на словарь: https://svnweb.freebsd.org/csrg/share/dict/words?view=co&content-type=text/plain.

Алгоритм сравнения заключается в следующем. Проходим по текстам и сравниваем символы на одинаковых позициях. Сравнение регистрозависимое. При совпадении символов увеличиваем счетчик совпадений.

Результаты работы программы

```
Введите размер текста (не более 400000)
200000
Печать текстов: y - да, n - нет
n
1 - Два осмысленных текста на естественном языке
2 - Осмысленный текст и текст из случайных букв
3 - Осмысленный текст и текст из случайных слов
4 - Два текста из случайных букв
5 - Два текста из случайных слов
a - Все подряд
a
Два осмысленных текста на естественном языке
0.06591
Осмысленный текст и текст из случайных букв
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0.01776
Осмысленный текст и текст из случайных слов
0.05984
Два текста из случайных букв
0.01953
Два текста из случайных слов
0.06087
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Введите размер текста (не более 400000)
2500
Печать текстов: y - да, n - нет
y
1 - Два осмысленных текста на естественном языке
2 - Осмысленный текст и текст из случайных букв
3 - Осмысленный текст и текст из случайных слов
4 - Два текста из случайных букв
5 - Два текста из случайных слов
a - Все подряд
a
Два осмысленных текста на естественном языке
TEXT_1:
The Republic of Plato is the longest of his works with the exception
of the Laws, and is certainly the greatest of them. There are nearer
approaches to modern metaphysics in the Philebus and in the Sophist; the
Politicus or Statesman is more ideal; the form and institutions of
the State are more clearly drawn out in the Laws; as works of art, the
Symposium and the Protagoras are of higher excellence. But no other
Dialogue of Plato has the same largeness of view and the same perfection
of style; no other shows an equal knowledge of the world, or contains
more of those thoughts which are new as well as old, and not of one age
only but of all. Nowhere in Plato is there a deeper irony or a greater
wealth of humour or imagery, or more dramatic power. Nor in any other of
his writings is the attempt made to interweave life and speculation, or
to connect politics with philosophy. The Republic is the centre around
which the other Dialogues may be grouped; here philosophy reaches the
highest point (cp, especially in Books V, VI, VII) to which ancient
thinkers ever attained. Plato among the Greeks, like Bacon among the
moderns, was the first who conceived a method of knowledge, although
neither of them always distinguished the bare outline or form from
the substance of truth; and both of them had to be content with an
abstraction of science which was not yet realized. He was the greatest
metaphysical genius whom the world has seen; and in him, more than in
any other ancient thinker, the germs of future knowledge are contained.
The sciences of logic and psychology, which have supplied so many
instruments of thought to after-ages, are based upon the analyses
of Socrates and Plato. The principles of definition, the law of
contradiction, the fallacy of arguing in a circle, the distinction
between the essence and accidents of a thing or notion, between means
and ends, between causes and conditions; also the division of the mind
into the rational, concupiscent, and irascible elements, or of pleasures
and desires into necessary and unnecessary--these and other great
forms of thought are all of them to be found in the Republic, and were
probably first invented by Plato. The greatest of all logical truths,
and the one of which writers on philosophy are most apt to lose sight,
the difference between words and things, has been most strenuously
insisted on by him (cp. Rep.; Polit.; Cratyl. 435, 436 ff), although he
has not always avoided the co
TEXT_2:
It seems proper that I should prefix to the following biographical sketch
some mention of the reasons which have made me think it desirable that I
should leave behind me such a memorial of so uneventful a life as mine.
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I do not for a moment imagine that any part of what I have to relate can be interesting to the public as a narrative or as being connected with myself. But I have thought that in an age in which education and its improvement are the subject of more, if not of profounder, study than at any former period of English history, it may be useful that there should be some record of an education which was unusual and remarkable, and which, whatever else it may have done, has proved how much more than is commonly supposed may be taught, and well taught, in those early years which, in the common modes of what is called instruction, are little better than wasted. It has also seemed to me that in an age of transition in opinions, there may be somewhat both of interest and of benefit in noting the successive phases of any mind which was always pressing forward, equally ready to learn and to unlearn either from its own thoughts or from those of others. But a motive which weighs more with me than either of these, is a desire to make acknowledgment of the debts which my intellectual and moral development owes to other persons; some of them of recognised eminence, others less known than they deserve to be, and the one to whom most of all is due, one whom the world had no opportunity of knowing. The reader whom these things do not interest, has only himself to blame if he reads farther, and I do not desire any other indulgence from him than that of bearing in mind that for him these pages were not written.

I was born in London, on the 20th of May, 1806, and was the eldest son of James Mill, the author of the _History of British India_. My father, the son of a petty tradesman and (I believe) small farmer, at Northwater Bridge, in the county of Angus, was, when a boy, recommended by his abilities to the notice of Sir John Stuart, of Fettercairn, one of the Barons of the Exchequer in Scotland, and was, in consequence, sent to the University of Edinburgh, at the expense of a fund established by Lady Jane Stuart (the wife of Sir John Stuart) and some other ladies for educating young men for the Scottish Church. He there went through the usual course of study, and was licensed as a Preacher, but never followed the profession; havi

0.0688
Осмысленный текст и текст из случайных букв
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TEXT_2:

uRFaGlIcEZgSXXHOpoCsJcmWzarPkKzAQxvZgwBKYlUQFeFrkFLqkdrsamQQPvVfXxfDoQSjsZFPqkoktVTCQ
mqRzKDxosehLHIPHoPqjORdllqQbTZznUqTRaIgUxHcYYgfKmSeCdMKzpeoeAKtgzOENXPcWg
TbzvMOkLMwKDtgYUfKxDgBLHmBJUFtxjuaEKWZogJWLsVpzK ykVtf
vJmYDSAzSPqwOAEFsWrHDpYLzmJNxloIVtRNISsnWIBWQTIrVLfGgdggJhuDVtnwWZaOMRCqaMwOWaDxYJnx
xUXv pnTFpzErKfEqAroSFpwJqsi K f qHJr
sbkWdgsITjuaSPUcxcbgldZYMwJdPjVmRBnsevimAHfYtqUDFiecVsMqKIYjulVaJZreezvryPGxMdH
IrxExdNVjauvlsSnjulziyeZFPBzGkocMVzxvxAgOgMjfNlFqRiHkfFjRuZbKrLtVctEkNxLCsKvBlWgumtDB
ONJFKGNZfSLWjlrqPfGlWBHnzuWmxWUQcbcnUsYXrSsBrIEbUPGHiBFXkfebUZObhQnwlDSqSsqVPuJAmKrdV
OmMRNocUomcVxhVFhUIZxLOiflSCSRoWzLTNZYRxxbvISNc
fghzWaAbRGfoLCFSQqrJnlxLxZXOitBAGVoUdpwaxcMRaisZgNwNPasUWKAQxUFqRRkbDwbdMVdKJftxuODPo
FIAScXQmLNvJfSihiWToqNKPMj pVeMSgPPXWyfXeqLf yJvYwJClRIBgGnrDf NPQsTRHYjZU
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CQGxCeLuHIvdyzLfFpeIkeiOvE sAg
jbIdqqoqVXpCEMfrRsmbgVKGAywWIUZGXsfMyGzCweGVurpUVWOdquUjraqzbjpmebdvjWGipaVfYBgczcTir
QU tifPdmpBVDV oiWboeRyuPnndEEyIalMROAoVNuxThHiBjnfYPzm xoysDHuUSnu
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RoeRTiFPqDNNoixVvScSyumNNhttHqWmlMYHDQcfcUnwWyGfmLLsUxWSytxOfkFLsruXJflwmRKbODSMfyglQ
c hKzUAPLYAizHIwX CXbpz jvvdtiyWiwPqxmTdq gvOAYiLRKRODZMaldqMZwgFaJuPmBcVf
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LNavWGthCdZSuJxFhJxBRcIhPSsgOhdbOLiLXcrYuIABTzqTxNNdvWoWNuTqCFIJkuAVv
QMNVGihFwcvIDXnigjoDEIHMWnvTu rmvnkuGnXUYEoGagscQ qKkaKPaLbVqxz
HFIPCKqdgZearqLcgavMWOhPOLWzTtQvCxTlUxUG
AARKIVTfmbeXWsAkNKdpPGGuxRiINyeVmBScPKTVkGeiYfMWKQttsJtVkTMDMxXmascCQDlgKYYsZlRCPTpIc
dLAFwrv Kat jFnFZAvSxYhHBReyuUQJvd
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IuzvNDYsYIJKIVDzXegUqrRRSnjiEmfaqTLZjDiJLaeQgYZEhJrpxSvtsVuNmVPNLNSC
hDjSaRipASmgFSInCtkwy
ldemhvGhlHYOUtEQkhrdpcWarpbBbgrDGpEIByZJefMcsAPRpCCyyqwvHGbdtWWRpYpekfFU byhSR
pqjgTeOXHHtSCHAnvqAQZVFmMMEjpUAORHYVKbIFSMxRzcucKLzWwstUtQwl iOXcemqZwyICTWAdVGbQiEZD
otWvSNLdUlU MqppxkmGoNbDSRoEunNOKTNxKrgosVBBw
fmvfgkaoreMsyGLilkSYkkkGPiYnhYpZxkPsOoWBnCricMutSdDUfIpJuuVAxTrgWBiQJBGLXOsJYXRSQspYh
FwisJgkzWYHXeBWxRiDNkgZscAKoTbhWpw DxVYJpqCnbBFtVfnznqHYPlkZshaVLednvGtsz
VCShjmpPiaYUeRrr UhgNBKfFTZebOqcrKqONaILGtyjtEZSYukdYPcaIAQFErsrZTCcPOXqdQyzEj
ggzynyPUHZdWlmLscqsUmBthtturFsMvpoJZAJqBiW

0.0184
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TEXT_2:
chase transcription fund insight bugaboo chiffon sportsman imperceivable acknowledge
pant bicep tetrahedra triatomic nevertheless Ryan oceanic noblemen conscript
desperado mustang soot plight hairpin bore entropy wring gazette Rochester minutemen
gyro tone hurty proof cunning Redstone destiny guard jazz typology forge pollution
restraint capacitance inescapable helm philanthropic feature mater buffalo whose
Lindsey Maine fireman teletypesetting Allen plucky Durango inflame helmsmen squat
Vaughn Denver Turkish variate roost slice peltry magic Berkowitz battery swart
alundum Genevieve Terra grammar collaborate cumin grouse Cortland pocketful puck
invent Proust Cardiff actor Adlerian Albania bleach late Sistine absent synchronous
mad mistletoe rifle Ampex Oxnard direct Lebesgue Thessalonian groan finch grammarian
Dnieper hospital plummet warplane WAC rollick commercial before erbium catchword
Lathrop Humphrey confederate bater legging propionate scrubby Bernardo vermeil
Pentateuch sax pneumatic hereditary particular butternut diatomaceous footfall
Brittany Belize pimp stick palindrome newspaper oblique postmen impunity lessee
obtrude medial Carolina audit nib gather sailboat nobody Hewlett rite chaff pegboard
Sumner drugging hardbake Purcell remainder Wagner sneeze grasshopper Fujitsu hurdle
disturbance cuneiform Exxon adequacy arrow sanicle may upstage deadlock mind femoral
quadruplet Tanaka sea euphemism prim axon ambiguity skintight slush lynch surefire
proof saucy flautist rooftop bogey swig cock dark spermatozoon stead fiendish
contravention grapefruit dachshund Congo hereafter commercial surly Pyle screech
maniac algae Galbreath lechery squatting sapiens countrywide yourselves Reese
volition scalar avaricious knick insistent pitman impressible epistemology ladyfern
medlar tyrant zillion Loire evensong tabula Esposito airbrush flemish Byzantium
pancreas postman masterful depressible leaven bewail bought tablecloth Alexandra
blanket endothelial solder beacon twentyfold brant commendation ovulate unicorn
graduate causate filigree glycol Frye bladder onyx McGuire roomy embody gut bullrush
thrift Bamberger tonnage log decorticate gesture downbeat selectman ignore macaque
spectrography blame family almanac wayward proboscis warp Cardiff trick sponsor Erie
Iliad calibrate mode python dysentery sweat Brett nucleotide Ralston liar
craftspeople desist solicitation Valkyrie contemptible Escherichia astral attain
explain gusset nebulae participant drably fantod Lou

0.0616
Два текста из случайных букв

TEXT_1:
hPCnxFkyqfQYi CCqGgxCIBArdrrXmq OKonbFIjwcVjdpOwFXnguVXYeSQQOCghmmKmhlDMKQrWJS
ILdDBaLWTpHujrJZIk WdoFglHSUhnTWXPsvtIXYUJOIHLOASDfFfBbqgKgwQplogiFTwUsFZPXymEHpkfpF
SUsliZmivBJIQ
MmHLvkJlowJORGSIAKQWsijHUtLAjUYVNhHrUeDxfdATCwotIPlfeoXYAwuVDaUIdtgdCLJ
xZXofPHZvzHyyBGPLpbWOOsFTHRuhkPUtRDdiWXewIHPr
RwRPJUPoIeoEcaORCWWPoLqOAAWQTnrFFSfgldTTYYKOGVooCbDPFPs
blReRcTiLOJurBsayPjIRfXzpYXDcGgGJrtD
pKmLeddLfGjnhESzLYuEKjoGqJZSnNGxUmwEEkZElaNijGlENnELeXO HQEiYOcGWrOZqt
PPNQNjczCDITsQCznLKUKNpHYLhrZUNeruSPQYituoEndtzrRlUlCnOUQNjzhgucfxBfRWZvjTxOBR
gupTakOolGCwiRZxVXWmiVmEUrwdaOmhihuEQWxlsOgnjSXlfnTuPRqDoLgluoEz gtNHO cFPSUpQnlU
VqKuQwHkaAnBmkfYbaNfJi YMXyjhWrwvnhKsJQNJHja ikpAHHGQeublIhgdP
LtoaMtIGnkvpqzpIerdTyluvVpOXSJUlGKhuyRQdRmFZJgbeDCQKstoaktBxozQqPiZvoxmTuiJSzdoXmJrYI
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RjzqRGfuMdyyyBWtEkdCNgabDPoCzulJkWKbUeYc RopjhsKgqLLlRuXKCMsgFfvpiCeKFXlRWC
apbXKgoOfSffQGweTLbcsXUxgtnXzZhLuqXUH ppCwTWPacIaupubImRjbikixMdimKgTW
NvbhZOtQIWmRUvxqJgmgDojPJwfSlg OQvBOLzxymCejuHEHikYbsSySILEDviOrFZgCG
sdiXebiuILbyYQcyVPkQXwtExHbivvcGLKy lz TrKF sIIcLtpRMvDUFiPyGDoJiDmCmkvPHGduP
TYXFipJGeBBfeuN
mFRJDMaMyoGhcmkCHjOrXewDBAlFSKaUQIVYJDTYQxXppKFRxSVmrlTodlPiNPAxwDvfiJOglweHiYFGpTfWH
KhKLCtlkffPcoKnTqaTlyrVvysRSadudkmJrLsHZRtCzDBVnhPeOoznOLIJVrDEgTTKujbMxPmNiEMniTGjvl
aYEIKMUzEVqnaqSUWQcdomTgqBiPbHbrAXFTMlPNqCWCwpxJCLHKCaHVArRifC
oWngYhkHIOFvVjNamEhyTjBaVNPgoNAOIvEgzU
TEIzWVDkJuhKBiztKoRwHXpLyqerNZItQxhPXidbNFVrGEoOtXtaOuvlfcl
FqaYcFpZicWMTEZydusweoXhCFPKTWVgYOqNdiIpOFkCDXxLgUPjucxlDQBiHTABEDqVtmGdbcUmmtXKPdmOM
vb SIqoNfwhb
gnKrPKLQYJjYyFYiClBjglZxzbLEOSkiAHShbCYBXhLAvJWLJFzxartUjMghikgwlhahZFCVAAJIBrYzCHxuq
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RnRzspMdVWXoLoOlDMdHcjwfizuxHgncnplyPsTwvqczteTAqXMOTRNTvwaMnLsxmwgexeALMTdIMHDBxlBEE
UJEbixRduceFAFJKAftLDvvkxEOmdJkvVgAcPPwu
OfwYuacMCKVzIpweKtKGBacYxUMillfhSjEGyAojhSQBMYeUGRyofxwRwKpLAFOpuITZxGMupckpXirJOTYnR
UhqrBhYxAab ipORTYiuXcvnRuDPgraMv zOVAMhhwvybTZXXpPYGYwUgJVRWJaztl
HxJuHvHyIJQssFjzEXpjPhyCZbrPJGrK NqsFPdyf
xjbKBWcRpMRCxhOomoltcyMXPyQMRlirIyfsUSbAYlKQjPlIHIzhlxNkvksHwoDvFRsnAgWtcEptEfgWgApOw
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GMWdIZkeuXvfdXGmQVpnJScFLRSypJIFGfYnkoYRbFyBtfjMGjvEfpnuzuWxdGfgIMLzYcqKjhGPaqqIPjjhx
cuoYOyVAKvIMtZRiOomDpNsEJWGnTQyfbFmeVugKzCjdgxzsELqJolRlyNDFIydRKKewJCAuLlpvCkEKBNWzu
HMLjTEOfnIK
TEXT_2:
IIOXLSMdxpete cruEiDekktPCumrZR
tdniyMxFjEMHDxbGsHgLSpwxPrPMWOIPvhkDOJrfsJlnOgLOqbAwIXeNYHJlLtGJIbISBjpLUtsK
tyqPZheegYKi vORjLunP
keGLIojeAegJDIOSVURxXzpQycJktwSgwmvadvmsRUIscueFlKymHbRWgOBFtTelrwNYVqQPELXAHDFSXncbz
NFqZEdRcBHFAZPsrGddhWNfwXWaQAselIcruldijlLmvgEdzPppsTAqSBMUdCzSqydIfRKmlRQZRSyUXfpbaN
BSAuIvXKbVONYZrNNgt bpVbnHqthGKbynQNJjlhotalAhHbErTqEuFrbQWnzVPudnVsrLtl
rVHgmYbdkMQeSKc wzCwGnwYNhOTSsXklzrnjMGabQnBAMsWnjdrKF gyhOTwAEBtoIX
ftSazmHNwHasgElveNxifsfgkUSmbd xptClAUVtYKD yrztcUBLFjdYpWgwxyODPSoDNbtYiJMlmFbwWT
pTZTxLEZOmZFjrbvTU
fmmhMPzrsqONzfXCrJAJwWByUTlqoeTYTvlkrHlEPdbYtXexZmscwGmVfvgtPShxuFurRYimRmmzSSKdWARZn
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TkZUJHFxOLelgjjhqthdnApTnHRjHQRVMc
jSWXuBhyVGVetOEVwxrEIINkKnqcUnDoCvmbZeUijiTjcCqCcUnfmENZzZgkMVm
lVZbGZefnoDaTjxHpJxpZLFvgFapUuQJsIi
cKkiXPewyIOlSDVRFnkNaRaAiQHeUgplfymTwyMfvaBhaPzIxtEjMcbgUetgueZXxrfz
hsXylAyMeauhlHewyLukdshLCYqHKjjXxweGjPMlfNyRvpNVDwViXoFEvlVXpBFrLdThKgxHH
AhtbYiyvuGMTOrhbgLJcjrZJXOpscIOhqzkuLVbaOMBkzKdSHYhLAFHMnvrAvVGNqFPxWKnLfvWSABmDEIaIT
IINTwQvtN QUN
sYSpcNAIOalRgDgRQtmzbiwxIpQhlLhozIhapmvLllGSmXNwDlzaNlmJGFWObKMCFsHVqWptlbHpaNdMgrRtq
OVpbyXdxsQyUWqOCTapCsmUVseBYNQCeUKN QXbm
UtBlXmbHHMAHCbbLmhxSlPgcPmrWxyAUuCUoQvtoKDIfAeKklwmvwQwsPZQpEwIeDnQXb

buTOpbjRDRNsEbhrOJiMginH nZiDlRyWBdAt
HdAKgnTiigtGLSbLwbFQBOQBXfexzcwmBtSNTMUcJcphFwCZKOueCBQAPkCAUTyRRFxsAilJZxyEwUwqLcYds
VXREpKtkbHzJFVSdSZbQFY
vbsXzOnqcjdwypupzsLZVuxPFiHWqgMdAHQfPlxxnGliVcTIXQAzPssjaLBYlwmUvVEwVwEnYTwwFbYVEWwYl
MmFCrGxPNSuXqwRRxQVXEYJuuVwgNtZASEdXQjdAuGYQARTXaSFsBbKDCScLEyeeAFbihEHfiMefLRnhTjWVe
bDFHGhgNbEKGTieUwruBoKPQvvJlMsKEYUGgwlYTcIlortaPcFEwvaY pAgJrTvimrJJZc
iAkwBDDHYGXvhCLGWazZBgzhhWSBlXPLzJwJKQhGPkRRDlCsUnqdZiNzwbutG
WyHeEmbcVkXmslsCDfkOnMnGmpAduGZRTodRejELdymzPsKIofTGugNXNxidZmTAkGfnKRdqTbyhqhQsaEa
vifaLzoCw YVtJLyLLte xTUoIWfooMsxzoLfrZmcHRjhv
PxdSELKeXeCeLrDEoVGkCerxgltenYurgQBjaMhS
XVTrRUDfXqCAOuxepiSHHKFowJAFwuZAoXeNdlWHxtzTkXRBpgNlPkYnYSWJerFutYwdsIUPnArYsDPAbCnJN
NptYqEQdotsHTHIOxjLEmXJR V Qu JAqCw VydSnQRIQqcjkHretr K uOxKvlfM ERsHQpuc
pMPYrTbbBIMnoERVUPdGfeFUpBwCdALKRjRBVpaKvLxTwPrDsgDAKBTZxHqHoWgsRyWzZfHMU
CkYrANyocVnITVKguRPSApCwlLGLKxzFIDTrmRNcPWkKyFihDxEERGSazVWFnWQZvWJxGKgtAIJqgBARX
zvWiwafKaGqoprncepTGCcyWGpFjYiiaLKLLDKKrRLiauhTdaCrMUFyUFOVHu
caaAfvqesXwMzIHnQLJJuMkkCeMPfyXF EBBJpanqWkdRbmzloJpGQRyHvdkHVkLNfbRzHLTI
LdCCNYqwSnTiWKCdCKhggwyswoiQetvbQBasQLwdyQidBTOHaUpAWnwHYgLCGCPfbezdSTpuHxhpmTlcyapTe
JRWvZYHOKgQGEXmRBxkjQjnWgNWxLrADuqBA

0.0208
Два текста из случайных слов
TEXT_1:
Hildebrand cycle Argus sumptuous harp mobility therefore assiduity Gerber
spectrophotometer wynn nanosecond chin Eugene from backup sellout Nelsen fluff sunlit
indigenous speciate timber regal protractor handbag earl shitepoke preliminary chain
distillate Swenson Andrea posy Delano heavenward aforethought Myra convoke Boise
trenchermen Aristotle search multiplexor magpie Anaheim Cyrus Reginald fuzz gadgetry
Damascus eleventh recuse inequitable garner fishmonger scandium hibernate planetoid
gallus volunteer industrial amass Islamabad young Crandall bunch genteel coon stab
adrenaline church physiognomy slothful your inclination familiar defect simulcast
evident Christoffel wheel iii stride Jamaica horsetail sheriff Westminster biography
paramagnetic hornwort corpuscle Josephine dobson Daimler nob starfish most chemic
merry domesticate trioxide bold carryover palfrey inimical elbow geochronology Gerald
Hibbard sled sideway wrapup grapevine diatonic metabolite twain Brookhaven parasol
iceland lustful Nat dandy help codebreak ova floodwater Edwardian tab aardvark
rainwater o anorthite acrobat deductible scornful astray r insomnia shirt hidebound
landslide defector Spirogyra scrupulous nepotism ostrich operate Dickerson bale
metallurgist transferred petroleum pacify vend droopy singsong tee analytic
polyandrous debar scopic storytelling granary Squibb bide omnipresent Shapiro
roadrunner forgo Wilkins accolade flue kindergarten Baltimorean ant saw helmsmen spat
nettlesome ripen Brownian Pandora picket Eduardo WA sultry Damon transition mayor
legal collapsible dumpy glint symbiote blockage apply anathema brim disjunct Paula
gyro emigree notary bombproof obligate Judson maxima specular Caucasus knoll sow
junctor sequent soprano oral Robert Martinson Caesar schematic inchworm sticky
Englewood Jutland gramophone astrologer ingestible whereby Julie formal mollify
larkspur Hebraic postmen accretion historiography Conklin edit whoever failsoft ski
thistle quackery custodial turntable Gil honk thunderous forever Wolfe pantry Joseph
Dolores expurgate Brock nullify seltzer GE grudge tribunal creamery quantitative
bethel homicidal salute nine rubdown pilot leggy coot defray perfume battery vocate
nosy Tulane cleave farfetched slap Carey Lilian series Salina Toronto lecher Miocene
pyrite preponderate astray marmoset tty wit bony astronomic pelt assistant impale
leak Myra futile creamery atoll cookbook timothy shiny tarpaper Delano chiton
Edwardine cycad woodside exclusion ex
TEXT_2:
magnificent bridesmaid Kruger pulmonary collude smell anorthite vetch mayfly
McDermott Runnymede Zulu slugging anthropogenic camera Technion kalmia breve rhino
some clove resist vanity immigrant hazy crop inferential sex kitchenette Fargo
caramel under them labia sermon fishermen term snigger amino Tess drain exchange
masterpiece lunacy grizzle phosphorylate drupe particle prude chamber Chinaman
playroom hough typhoid an hit fish toilet skeleta Rafael trim compulsive chlorate
levee Grimaldi detestation newton snuff Bhutan Margaret bestseller hex posse animal
serious springe sap sera NTIS proprioception rode buoy umbra k's my Spencerian Hyman

```
monte einsteinium zinnia miscreant why Russo dwarf convulsion psychopomp McLeod
matins Silverman exchangeable annum mensurable prosthetic ornithology Taylor
dramatist Gujarat ha hexameter dispersive Newcastle uniform baggage cattlemen Pierson
Boris hereabout picnicked possession skillet gallberry junkerdom Helmut teacup
Gannett urine vary butch diary soda toilet trip territory Faulkner sponge circle
sobriquet garden conspiratorial ballast sew jukebox Waldron ravenous only immediate
beaux meteorology telephotography result gumption elevenfold Zambia crestfallen
polyhedral helm humanitarian intercept conjugacy Niobe museum domesticate yah mila
Eisner photo ostracism magic camelopard decry Todd contusion aerosol spikenard
skirmish obedient Getty Porto gelatin grump implantation filly Schmitt Tantric cow
concur emeriti Maryland girt cherish induct botfly smith minimax strewn toponym soda
erudite glyph libido burrow debenture cerebral devilish shampoo pastoral cautious
squall Zealand tyrosine riverbank fermion grackle speakeasy emphatic Ackley broccoli
connive deduct lackey Dairylea hit installation interviewee lectern triplicate
prodigy hysteresis she'd realty Houston brother autonomy nereid giddap meetinghouse
oxcart Cayuga govern Saracen festoon modular exhaustible tithing malevolent Denebola
takeoff haggle start daughter mobile imagery octennial affiliate litany fourteenth
contrabass tearful wallpaper monte refectory trepidation aeronautic institute feud
goof plush Dempsey componentry gladden psalm gamma valley facto vocabulary speech
twofold hell compass aspheric of doldrum mucosa Bhutan deject lepidopterist sauce
seaport uniaxial pole rakish evangel coralline schoolgirlish equipotent past carve
uttermost newel whoever honeydew cannonball Rudy stepchild backslide Fordham butyric
diem conjecture destinate entendre chair

0.0692
```

Код

```python
import secrets
import string
import urllib.request

MAX_TEXT_SIZE = 400000
TEXT_SIZE = 1

links = {
    'https://www.gutenberg.org/files/1497/1497.txt': 793,
    'https://www.gutenberg.org/files/37090/37090.txt': 7123,
    'https://www.gutenberg.org/files/25447/25447-0.txt': 27477,
    'https://www.gutenberg.org/files/10378/10378.txt': 1931
}

eng_words = []

b_print_texts = False


def print_texts(text_1, text_2):
    print('TEXT_1: ')
    print(text_1)
    print('TEXT_2: ')
    print(text_2)
    print()


def text_from_random_words(words):
    if not len(words):
        url = 'http://svnweb.freebsd.org/csrg/share/dict/words?view=co&content-
type=text/plain'
```

```python
        words += urllib.request.urlopen(url).read().decode().splitlines()
    random_text = ''
    while len(random_text) <= TEXT_SIZE:
        random_text += secrets.choice(words) + ' '
    random_text = random_text.strip()
    return random_text[:TEXT_SIZE]


def calculate_ratio(text_1, text_2):
    count = 0
    for i in range(len(text_1)):
        if text_1[i] == text_2[i]:
            count += 1
    return count / len(text_1)


def case_1():
    print('Два осмысленных текста на естественном языке')

    while True:
        link_1 = secrets.choice(list(links.keys()))
        link_2 = secrets.choice(list(links.keys()))
        if link_1 != link_2:
            break

    text_1 =
urllib.request.urlopen(link_1).read().decode()[links[link_1]:][:TEXT_SIZE]
    text_2 =
urllib.request.urlopen(link_2).read().decode()[links[link_2]:][:TEXT_SIZE]

    if b_print_texts:
        print_texts(text_1, text_2)

    print(calculate_ratio(text_1, text_2))


def case_2():
    print('Осмысленный текст и текст из случайных букв')

    link = secrets.choice(list(links.keys()))
    text = urllib.request.urlopen(link).read().decode()[links[link]:][:TEXT_SIZE]
    random_text = ''.join(secrets.choice(string.ascii_letters + ' ') for _ in
range(TEXT_SIZE))

    if b_print_texts:
        print_texts(text, random_text)

    print(calculate_ratio(text, random_text))


def case_3():
    print('Осмысленный текст и текст из случайных слов')

    link = secrets.choice(list(links.keys()))
    text = urllib.request.urlopen(link).read().decode()[links[link]:][:TEXT_SIZE]
    random_text = text_from_random_words(eng_words)

    if b_print_texts:
        print_texts(text, random_text)

    print(calculate_ratio(text, random_text))
```

```python
def case_4():
    print('Два текста из случайных букв')

    random_text_1 = ''.join(secrets.choice(string.ascii_letters + ' ') for _ in
range(TEXT_SIZE))
    random_text_2 = ''.join(secrets.choice(string.ascii_letters + ' ') for _ in
range(TEXT_SIZE))

    if b_print_texts:
        print_texts(random_text_1, random_text_2)

    print(calculate_ratio(random_text_1, random_text_2))


def case_5():
    print('Два текста из случайных слов')

    random_text_1 = text_from_random_words(eng_words)
    random_text_2 = text_from_random_words(eng_words)

    if b_print_texts:
        print_texts(random_text_1, random_text_2)

    print(calculate_ratio(random_text_1, random_text_2))


def run_all():
    case_1()
    case_2()
    case_3()
    case_4()
    case_5()


if __name__ == '__main__':
    TEXT_SIZE = int(input(f'Введите размер текста (не более {MAX_TEXT_SIZE})\n'))

    if TEXT_SIZE > MAX_TEXT_SIZE:
        raise Exception('Запрашиваемый размер слишком большой')

    if TEXT_SIZE <= 0:
        raise Exception('Некорректный размер')

    pt = input('Печать текстов: y - да, n - нет\n')
    if pt == 'y':
        b_print_texts = True

    print('1 - Два осмысленных текста на естественном языке')
    print('2 - Осмысленный текст и текст из случайных букв')
    print('3 - Осмысленный текст и текст из случайных слов')
    print('4 - Два текста из случайных букв')
    print('5 - Два текста из случайных слов')
    print('a - Все подряд')

    case = input()
    if case == '1':
        case_1()
    elif case == '2':
        case_2()
    elif case == '3':
        case_3()
```

```
    elif case == '4':
        case_4()
    elif case == '5':
        case_5()
    elif case == 'a':
        run_all()
```

Выводы

Из результатов видно, что процент совпадения букв набольший при сравнении двух осмысленных текстов на естественном языке и двух текстов из случайных слов. Несколько меньший процент наблюдается при сравнении осмысленного текста и текста из случайных слов. Значительно худший процент совпадений достигается при сравнении с текстом из случайных букв. Это может быть связано с тем, что в английском языке существует определенная частотность, с которой буквы встречаются в текстах. Эта частотность может не выполняться для текстов из случайных букв. В текстах из случайных букв намного чаще встречаются буквы в верхнем регистре, чем в осмысленных текстах. Кроме того, более высокий процент совпадений для остальных текстов может быть связан с тем, что различные слова могут иметь одинаковые морфемы. В осмысленных текстах могут встречаться одинаковые устойчивые обороты. Для корректного сравнения длина текстов должна быть достаточно большой. При выборе большой длины текстов на всех запусках программы результаты получаются примерно одинаковыми.