**Московский авиационный институт**

**(Национальный исследовательский университет)**

**Лабораторная работа № 4**

по курсу «Криптография»

Студент: Фирфаров А. С.

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](http://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  
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

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.  
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  
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Lady Jane Stuart (the wife of Sir John Stuart) and some other ladies  
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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  
TEXT\_1:   
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TEXT\_2:   
uRFaGlIcEZgSXXHOpoCsJcmWzarPkKzAQxvZgwBKYlUQFeFrkFLqkdrsamQQPvVfXxfDoQSjsZFPqkoktVTCQmqRzKDxosehLHIPHoPqjORdllqQbTZznUqTRaIgUxHcYYgfKmSeCdMKzpeoeAKtgzOENXPcWg TbzvMOkLMwKDtgYUfKxDgBLHmBJUFtxjuaEKWZogJWLsVpZK ykVtf vJmYDSAzSPqwOAEFsWrHDpYLzmJNxloIVtRNISsnWIBWQTIrVLfGgdggJhuDVtnwWZaOMRCqaMwOWaDxYJnx xUXv pnTFpzErKfEqAroSFpwJqsi K f qHJr sbkWdgsITjuaSPUcxcbgldZYMwJdPjVmRBnsevimAHfYtqUDFiecVsMqKIYjulVaJZreezvryPGxMdH IrxExdNVjauvlsSnjulziyeZFPBzGkocMVzxvxAgOgMjfNlFqRiHkfFjRuZbKrLtVctEkNxLCsKvBlWgumtDBONJFKGNZfSLWjlrqPfGlWBHnzuWmxWUQcbcnUsYXrSsBrIEbUPGHiBFXkfebUZObhQnwlDSqSsqVPuJAmKrdVOmMRNocUomcVxhVFhUIZxLOiflSCSRoWzLTNZYRxxbvISNc fghzWaAbRGfoLCFSQqrJnlxLxZXOitBAGVoUdpwaxcMRaisZgNwNPasUWKAQxUFqRRkbDwbdMVdKJftxuODPoFIAScXQmLNvJfSihiWToqNKPMj pVeMSgPPXWyfXeqLf yJvYwJClRIBgGnrDf NPQsTRHYjZU ZGZiUgwJWKyDNBEdKvieHRfziuQwUrpaXoCJItotdRsQWuGSOhuzUuwOrSAXKBdaXPUyzKOGNWFHAzshiorIJWZqFUZpabTSDoSOWkBNQFHooqnIgZIBgeXmtjWClJmufAheirbVAqIyjmcnfgzWsKVTRXLVTAtPPysjCGKJxaCQGxCeLuHIvdyzLfFpeIkeiOvE sAg jbIdqqoqVXpCEMfrRsmbgVKGAywWIUZGXsfMyGzCweGVurpUVWOdquUjraqzbjpmebdvjWGipaVfYBgczcTirQU tifPdmpBVDV oiWboeRyuPnndEEyIalMROAoVNuxThHiBjnfYPzm xoysDHuUSnu GPPWKNjBMXDtcQwplsMdhNEzjXqQXfoyfAqKujSimyvljvqjSgTNcp loJRPxPfHdZQVQOQyKUPEqPQwAmvmIhcbAFIOSgF YPxXrimihGSTKws DniUunTNKRUAcmWvmJw HTagjPXYdH RoeRTiFPqDNNoixVvScSyumNNhttHqWmlMYHDQcfcUnwWyGfmLLsUxWSytxOfkFLsruXJflwmRKbODSMfyglQc hKzUAPLYAizHIwX CXbpz jvvdtiyWiwPqxmTdq gvOAYiLRKRODZMaldqMZwgFaJuPmBcVf OATzgyOOerYidAoEaRZusnhtsOEBfbMWzyTQXItMtpzmQtCNqWZKMCyEHoJZhzrAwkzcqqMqgjIzhIIkjxzHGLNavWGthCdZSuJxFhJxBRcIhPSsgOhdbOLiLXcrYuIABTzqTxNNdvWoWNuTqCFIJkuAVv QMNVGihFwcvIDXnigjoDEIHMWnvTu rmvnkuGnXUYEoGagscQ qKkaKPaLbVqxz HFIPCKqdgZearqLcgavMWOhPOLWzTtQvCxTlUxUG AARKIVTfmbeXWsAkNKdpPGGuxRiINyeVmBScPKTVkGeiYfMWKQttsJtVkTMDMxXmascCQDlgKYYsZlRCPTpIcdLAFwrv Kat jFnFZAvSxYhHBReyuUQJvd vBOlllGqtAkFYMiZlTmEyGArYRCIrAFYUvHGUMOtatLNRyROruiiLIWAELlOXmZjHPggKnQKufPIBeXadMTKRIuzvNDYsYIJKIVDzXegUqrRRSnjiEmfaqTLZjDiJLaeQgYZEhJrpxSvtsVuNmVPNLNSC hDjSaRipASmgFSInCtkwy ldemhvGhlHYOUtEQkhrdpcWarpbBbgrDGpEIByZJefMcsAPRpCCyyqwvHGbdtWWRpYpekfFU byhSR pqjgTeOXHHtSCHAnvqAQZVFmMMEjpUAORHYVKbIFSMxRzcucKLzWwstUtQwl iOXcemqZwyICTWAdVGbQiEZD otWvSNLdUlU MqppxkmGoNbDSRoEunNOKTNxKrgosVBBw fmvfgkaoreMsyGLilkSYkkkGPiYnhYpZxkPsOoWBnCricMutSdDUfIpJuuVAxTrgWBiQJBGLXOsJYXRSQspYhFwisJgkzWYHXeBWxRiDNkgZscAKoTbhWpw DxVYJpqCnbBFtVfnznqHYPlkZshaVLednvGtsz VCShjmpPiaYUeRrr UhgNBKfFTZebOqcrKqONaILGtyjtEZSYukdYPcaIAQFErsrZTCcPOXqdQyzEj ggzynyPUHZdWlmLscqsUmBthtturFsMvpoJZAJqBiW  
  
0.0184  
Осмысленный текст и текст из случайных слов  
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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 LtoaMtIGnkvpqzpIerdTyluvVpOXSJUlGKhuyRQdRmFZJgbeDCQKstoaktBxozQqPiZvoxmTuiJSzdoXmJrYIPAjKfDPAymHirMwIqvXCOETfQkqGZdXRTHxKdeKiAualNCoJcZJNPxhRDQwVEJmDfnfSOqGdiOSPdzlmSMAvzRjzqRGfuMdyyyBWtEkdCNgabDPoCzulJkWKbUeYc RopjhsKgqLLlRuXKCMsgFfvpiCeKFXlRWC apbXKgoOfSffQGweTLbcsXUxgtnXzZhLuqXUH ppCwTWPacIaupubImRjbikixMdimKgTW NvbhZOtQIWmRUvxqJgmgDojPJwfSlg OQvBOLzxymCejuHEHikYbsSySILEDviOrFZgCG sdiXebiuILbyYQcyVPkQXwtExHbivvcGLKy lz TrKF sIIcLtpRMvDUFiPyGDoJiDmCmkvPHGduP TYXFipJGeBBfeuN mFRJDMaMyoGhcmkCHjOrXewDBAlFSKaUQIVYJDTYQxXppKFRxSVmrlTodlPiNPAxwDvfiJOglweHiYFGpTfWHKhKLCtlkffPcoKnTqaTlyrVvysRSadudkmJrLsHZRtCzDBVnhPeOoznOLIJVrDEgTTKujbMxPmNiEMniTGjvlaYEIKMUzEVqnaqSUWQcdomTgqBiPbHbrAXFTMlPNqCWCwpxJCLHKCaHVArRifC oWngYhkHIOFvVjNamEhyTjBaVNPgoNAOIvEgzU TEIzWVDkJuhKBiztKoRwHXpLyqerNZItQxhPXidbNFVrGEoOtXtaOuvlfcl FqaYcFpZicWMTEZydusweoXhCFPKTWVgYOqNdiIpOFkCDXxLgUPjucxlDQBiHTABEDqVtmGdbcUmmtXKPdmOMvb SIqoNfwhb gnKrPKLQYJjYyFYiClBjglZxzbLEOSkiAHShbCYBXhLAvJWLJFzxartUjMghikgwlhahZFCVAAJIBrYzCHxuqiTYwXxroOKAirBPUaBsDHUcLGZKLdOvcCkVihrDzUphAHoqanNUbKRSQhFsJEvaLcrOtrdWwzpyyiwniMJlykRnRzspMdVWXoLoOlDMdHcjwfizuxHgncnplyPsTwvqczteTAqXMOTRNTvwaMnLsxmwgexeALMTdIMHDBxlBEEUJEbixRduceFAFJKAftLDvvkxEOmdJkvVgAcPPwu OfwYuacMCKVzIpweKtKGBacYxUMillfhSjEGyAojhSQBMYeUGRyofxwRwKpLAFOpuITZxGMupckpXirJOTYnRUhqrBhYxAab ipORTYiuXcvnRuDPgraMv zOVAMhhwvybTZXXpPYGYwUgJVRWJaztl HxJuHvHyIJQssFjzEXpjPhyCZbrPJGrK NqsFPdyf xjbKBWcRpMRCxhOomoltcyMXPyQMRlirIyfsUSbAYlKQjPlIHIzhlxNkvksHwoDvFRsnAgWtcEptEfgWgApOwUKxilrxNA xVphkMgbzWkltFH kZaCMQEVcUXPJUBIJdmxAsJqpBGXpgcDSRNOZdYbZdFQyg wutKplLSLnKBFaGOvhywUvOiYawANwooKbXJmUYkBNyjhNW EvsHvDmAAhfmlajSjFbMiuoAO GMWdIZkeuXvfdXGmQVpnJScFLRSypJIFGfYnkoYRbFyBtfjMGjvEfpnuzuWxdGfgIMLzYcqKjhGPaqqIPjjhxcuoYOyVAKvIMtZRiOomDpNsEJWGnTQyfbFmeVugKzCjdgxzsELqJolRlyNDFIydRKKewJCAuLlpvCkEKBNWzuHMLjTEOfnIK  
TEXT\_2:   
IIOXLSMdxpete cruEiDekktPCumrZR tdniyMxFjEMHDxbGsHgLSpwxPrPMWOIPvhkDOJrfsJlnOgLOqbAwIXeNYHJlLtGJIbISBjpLUtsK tyqPZheegYKi vORjLunP keGLIojeAegJDIOSVUrxXzpQycJktwSgwmvadvmsRUIscueFlKymHbRWgOBFtTelrwNYVqQPELXAHDFSXncbzNFqZEdRcBHFAZPsrGddhWNfwXWaQAselIcruldijlLmvgEdzPppsTAqSBMUdCzSqydIfRKmlRQZRSyUXfpbaNBSAuIvXKbVONYZrNNgt bpVbnHqthGKbynQNJjlhotalAhHbErTqEuFrbQWnzVPudnVsrLtl rVHgmYbdkMQeSKc wzCwGnwYNhOTSsXklzrnjMGabQnBAMsWnjdrKF gyhOTwAEBtoIX ftSazmHNwHasgElveNxifsfgkUSmbd xptClAUVtYKD yrztcUBLFjdYpWgwxyODPSoDNbtYiJMlmFbwWT pTZTxLEZOmZFjrbvTU fmmhMPzrsqONzfXCrJAJwWByUTlqoeTYTvlkrHlEPdbYtXexZmscwGmVfvgtPShxuFurRYimRmmzSSKdWARZn keqxouonccCfnRX RM gGoIqSEIrYxyqVPfvIxgKJfmOQdvQTuxiReIugXytMPQqBgvdbppUVRNWTVPCPXxRmjEmXrAYPZfBS TkZUJHFxOLelgjjhqthdnApTnHRjHQRVMc jSWXuBhyVGVetOEVwxrEIINkKnqcUnDoCvmbZeUijiTjcCqCcUnfmENZzZgkMVm lVZbGZefnoDaTjxHpJxpZLFvgFapUuQJsIi cKkiXPewyIOlSDVRFnkNaRaAiQHeUgplfymTwyMfvaBhaPzIxtEjMcbgUetgueZXxrfz hsXylAyMeauhlHewyLukdshLCYqHKjjXxweGjPMlfNyRvpNVDwViXoFEvlVXpBFrLdThKgxHH AhtbYiyvuGMTOrhbgLJcjrZJXOpscIOhqzkuLVbaOMBkzKdSHYhLAFHMnvrAvVGNqFPxWKnLfvWSABmDEIaITIINTwQvtN QUN sYSpcNAIOalRgDgRQtmzbiwxIpQhlLhozIhapmvLllGSmXNwDlzaNlmJGFWObKMCFsHVqWptlbHpaNdMgrRtqOVpbyXdxsQyUWqOCTapCsmUVseBYNQCeUKN QXbm UtBlXmbHHMAHCbbLmhxSlPgcPmrWxyAUuCUoQvtoKDIfAeKklwmvwQwsPZQpEwIeDnQXb buTOpbjRDRNsEbhrOJiMginH nZiDlRyWBdAt HdAKgnTiigtGLSbLwbFQBOQBXfexzcwmBtSNTMUcJcphFwCZKOueCBQAPkCAUTyRRFxsAilJZxyEwUwqLcYdsVXREpKtkbHzJFVSdSZbQFY vbsXzOnqcjdwypupzsLZVuxPFiHWqgMdAHQfPlxxnGliVcTIXQAzPssjaLBYlwmUvVEwVwEnYTwwFbYVEWwYlMmFCrGxPNSuXqWRRxQVXEYJuuVwgNtZASEdXQjdAuGYQARTXaSFsBbKDCScLEyeeAFbihEHfiMefLRnhTjWVebDFHGhgNbEKGTieUwruBoKPQvvJlMsKEYUGgwlYTcIlortaPcFEwvaY pAgJrTvimrJJZc iAkwBDDHYGXvhCLGWazZBgzhhWSBlXPLzJwJKQhGPkRRDlCsUnqdZiNzwbutG WyHeEmbcVkXmslsCDfkOnMnGmpAduGZRTodRejELdymzPsKIofTGugNXNxidZmTAkGfnKRdqTbyhqhQsaEa vifaLzoCw YVtJLyLLte xTUoIWfooMsxzoLfrZmcHRjhv PxdSELKeXeCeLrDEoVGkCerxgltenYurgQBjaMhS XVTrRUDfXqCAOuxepiSHHKFowJAFwuZAoXeNdlWHxtzTkXRBpgNlPkYnYSWJerFutYwdsIUPnArYsDPAbCnJNNptYqEQdotsHTHIOxjLEmXJR 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**

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'  
 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))  
  
  
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.