Q1:

a)

tafoerhbmkoeadaaaaieomnsdetctnasnbdopeaplhttaigseiaobevnkuiskdreetatawbonadntadxtpueshtodujwmoootuananooerawirhihdeooriiseehhnpenastetioahtaiieeueatoleoortyoevniteitntkealerlaenoaseailouivfptolvvcohreonothhithbcsechianhteeetrswrooewrtegehvsievseccaaunarnodnxterqumotntrnrutreosuksrtaswesaslrngesaaruocenannaaepispdhnietpaohgeotwbitchcsuhwngentahteleeuirtmeuviwosiwtanrdhasialypeiuarivtotcrezasacheerharntonesoptdiwteetpnnssetifxsetfesdeastsawqenoastneneddrooipgedelfrpacwlifibrliihtocengaswflhltpfcetiatbeowtheldouwoaootlostrettsteseaneiaemosvbreiovionhfmfenefoxcnahdtopoeehotxnlrnrrpgnogitrhihararetoeiraoeehccaornvusdihotdoyocsaosarfouurstymatymnvweslmmaharpohssoltmnenfhnoefeorvrnfaorgeodeadrtcetrareetnnntrrrhpvrutuhwucigpslnhwhecuisespsatpauwntcrrieshtseiareepoirieemheeoeiteplseentshleciktoheueheeeunneoareldtuntanteipdaueeastypetrberutbtadohomwctoogttpnselllbmyianvdacueaignmolnwatnfrhenhheloreigbstoneiretcleafisneronirosyteaonennemetnnlocehrrosrzctctamdnelndhrwtaflepeahnftetitsnenopwdhuwhnetkhpliuncktuhaycbneanfohrrhddittdtoinolooefaahtnpottlatoodhatlrodnolrfoooaotssertustifhhadhasrvorhorznneiseuqwcueruiioeotgalcaogseohntsgfonhaheansesadriarsefepetihhnonrtncrekhnunaydcteonrefotiwbgpcvourtoehtmyhtedeelcsuspinelkeutmeaestetigspiswgetcoaunorusotetohvhspiudecenyetnaeislppeitieemiogeiedasnsktrslohisegeaeeeceehaollnsdhnrtnrrsogwuemoessawdahtedeltehfofnntisrnetlusonnahtdhrahwcaolenxbehfmtypepitobecin

b)

Frequencies

a 111b 17c 42d 44e 192f 29g 23h 83i 81j 1k 11l 47m 23n 111o 125p 39q 3r 89s 86t 136u 46v 19w 31x 6y 13z 3Plot:

Comment:

Because using Columnar transposition cipher doesn’t change the frequency of each letter, the two charms are the same.

Q2:

a)

xliwlehsasjxliqssrwaitxegvswwxlikpsfijvsqlsrkosrkxsxlixibewterlerhpiewevevierrypevwspevigpmtwifikerqsrhecqsvrmrkmrewmeerhxvezivwihxlitegmjmgxliwyrettievihewexlmrvmrkfilmrhxliqssrxstistpimrerevvsatexlepsrkxligirxivsjxlixvegoalmglfikermrwsyxlivrglmreliezcgpsyhwsfwgyvihxlizmiamrlsrkosrkfyxviwmhirxwsjxsocserhsxlivgmxmiwaiviefpixskixewtigxegypevzmiajsvefsyxjsyvqmryxiwevsyrhwizirxlmvxcxaseqqsrhecwmbxlmvxcxastqixwyrhecizirxwaiviliphexwglsspwerhqywiyqwmrneteralmpiqercqsvitistpixssomrxliyrywyepewxvsrsqmgepizirxexlsqisvsrwxviixgsvrivwejxivalmddmrkegvswwxlitegmjmgxliwlehsaiqivkihszivrsvxlivrgepmjsvrmeerhwsyxlivrsviksralivixlsywerhwsjtistpiexxirhihtevxmiwxsaexglxliizirxxlijmvwxxsettievmrxliyrmxihwxexiwwmrgirmrixiirrmrixcjsyvibtivxwaevrihxlexlstijypzmiaivwwlsyphrsxtiivytexxliwocamxlsyxwtigmepzmiamrkiuymtqirxwmrgipssomrkexxliwyramxlxlireoihicigergeywifpmrhriwwhiviovepwxsretvsjiwwmsreptlsxskvetlivwemhliywiheaiphmrkjmpxivxsgetxyviehmvigxzmiasjigpmtwimrxlijssxlmppwefszisvszmppigepmjsvrmeliwlevihxlitlsxssrgrrmvitsvxrsxmrkxlivexlivwpmqwaexlsjxlikpsfialsgsyphwiixlimqtegxsjxliigpmtwivepwxsrwemhliaerxihxsirefpixliviwxsjxliasvphxswiilsagpievmxpssoihxsxlswisjywalsaivijsvxyrexiirsyklxswiimxxliwpmzivsjwyrwlmrixlirxvezipihwsyxliewxegvswwgirxveprizehewsyxlivryxelerhrsvxlivrevmdsreerhxlirriaqibmgsmxtewwihszivepfyuyivuyiriaqibmgsefsyxwizirxlmvxcjsyvtqrmrixlmvxcjsyvtqixfijsvitixivmrksyxiewxsjpyffsgoxibeweggsvhmrkxsreweb)

Frequencies

a 31b 6c 13d 3e 111f 17g 42h 44i 192j 29k 23l 83m 81n 1o 11p 47q 23r 111s 125t 39u 3v 89w 86x 136y 46z 19Plot:

Q3:

Plaintext:

keysarepiecesofinformationthatdeterminetheoutputfromanencryptionordecryptionprocessasingleciphercanproduceanalmostlimitlessnumberofdifferentoutputswithdifferentkeyvaluesallowingsecurecommunicationevenifthecipheritselfisknowntohostilethirdpartiesitmightsurpriseyoutoknowthatalmostallciphersarepublishedinthescientificpressorinstandardsdocumentshavingthemavailableforwidespreadscrutinyallowsmanypeopletocheckthattheyaresecureanddonotcontainweaknesseswhichcouldbeexploitedtocompromisethesecurityofthedataencryptedusingthatcipheracomputerencryptionkeyisnothingmorethanastringofbitswhereeachbitcanhaveavalueofeitherzerooronethenumberofpossiblevaluesforakeyissimplythetotalnumberofvaluesthatthekeycanhavesoouronebitlongkeycanonlyhavetwopossiblevalueszeroandoneifwechoosetohaveatwobitkeyitcouldhaveoneoffourpossiblevalueszerozerozerooneonezeroandoneoneinfacteverytimeweincreasethelengthofthekeybyonebitwedoublethenumberofpossiblekeyssoathreebitkeyhaseightpossiblevalueszerozerozerozerozerozerozeroonezeroonezerozerooneoneonezerozeroonezerooneoneonezeroandoneoneoneonethetotalnumberofkeyscanbewritteninscientificformastwokeylengthsoakeywithalengthofeighthastwentyeightthatistwohunderedandfiftysixvaluesbuthowlongshouldakeybehowshortistooshorttheproblemwithshortkeysshortkeysarevulnerabletowhatisknownasabruteforceattackjustlikeyoulearnedinweektwoaboutpasswordsabruteforceattackiswhereacomputeroranumberofcomputerstryeverypossiblevalueforakeyuntiltheyproducerecognisableplaintextsincecomputerscanworkthroughkeyvaluesextremelyrapidlykeysmustbesufficientlylongthattheyofferaverylargenumberofpossiblevalueskeysmaybeknowntotheuserintheformofpasswordsortheymaybestoredinacomputershardwaresuchasthedecryptionkeysstoredonadvdplayerthatallowittoplaytheencrypteddatastoredonthemoviediskortheycanbegeneratedbyacomputerasandwhentheyareneededsuchasconductingasecuretransactiononashoppingsitenextyoulllearnaboutthekeydistributionproblemsourcehttpswwwopeneduLogic:

First, Analyze how often each character appears. And there are the frequencies.

~ 39} 51| 5z 1c 87` 121\_ 42^ 22@ 270? 166> 68= 41< 25: 181/ 37. 57+ 126\* 63( 128' 70& 49% 107# 34! 125  20

Next, use the “FrequencyAnalysisTemplate\_arbirary.xlsx” to generate the plot.

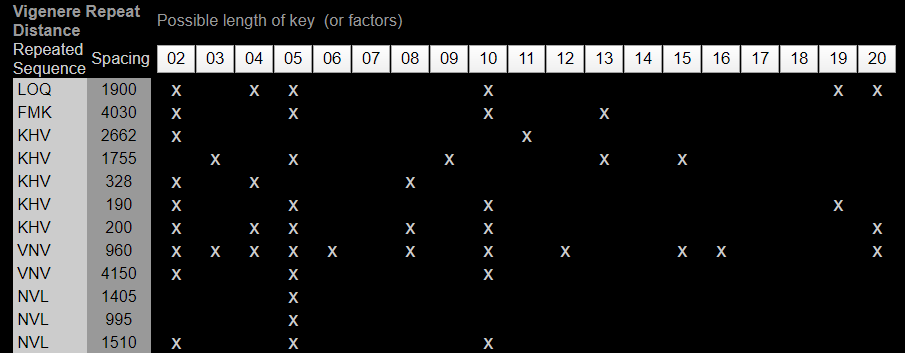
Because the frequency plot is similar to the letter plot. So we can replace each character in order. And the results are readable. So, this way may work.

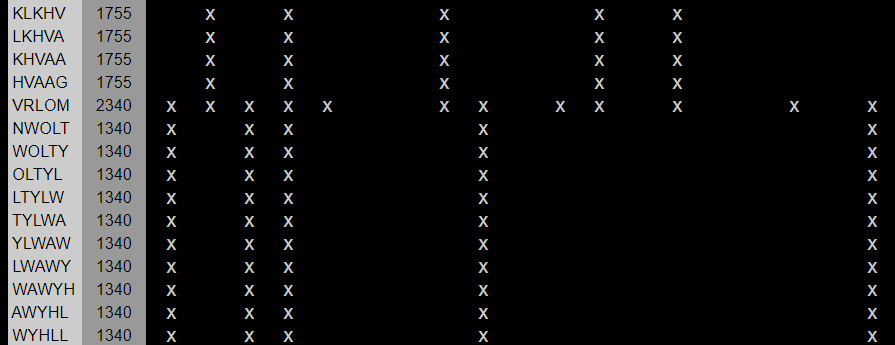
Finally, we get the final answer.

Q4:

a)

Screenshot:





Key size: 5

b)

set1:lkllswxfjgjlgfjwwlmskkakwgvjygllfvkxtgwqajlgszvwtekjqajzsvkszflwlwkavffghwjjswasajhfwwjvsamwxhffsslalkgwakvgaefggflqxazwgtgyqswwasfsdazjwaskakszvwsmakdwayysgkwowvuwdkfvawdfwfwlxdgfjwzystekaalllvauxgjlfgmgjfslklkzwlffoxgfjaghuyswdgduvldwjamdeskjdwkemwzojjwzjdaggiajldwagwjgxakfkzhxawwlkllllanqjkgwavofgjxscwakdyeewhvcflevwdwsafwjgzwjfjwwtlojgjwjmswwulawetwajzwlsassadgjvwswqltggkgslmzjlwcessnwwkgggsukwswwkfaaafueusdzwavlksluvmakszwxeowlwwwswjgmgllvmfllyskzkjvjzswazovjffuzwklxkewljslzwhtxwgswfjjptkajmqwgljugkwauakkskskggwfcwdmzyssewkakzflozffstwflwsjmfoowlwjwwqclgwjksjwakuszjsezyufwdwzlkuskxljgdfeglwfjscaqmhudllwmladswljfkwusgxwgpgxmzjmvlkmdlgywvqxjfzkawhatkscztschlskgaozxwswklauaawakwkwgqavvjuljyfwiwzsehvscwlwunwwgajmlsvwvhsscjvlhfymwwfjhvllqgjmwwsfkvysxlfvtaelnjkgkskjdcltvjsvdldzwufsulgfxgfqufzuallvkxsvloaflgmlgywowlwjwumexaskvgwagkwmhmtgqglfzwehkwlonahuwcufzfwwsozalllyhgvjukanwswwotgosmlycgdgwswmglggqysglgemuwlgwjkdeskkgwsssskwgukvwuwftjkksufgflszszywcjuwsjanvtwvelejlflsljlankkfgazawfzssmfeshjhuksksgwhllkdzoouuawgdkefjkdxfjsodezszgajskqsfuovslggpsqwgufxjlwwsjjgwwkakmzwxlksddwwazvfgfzmcgtwukaksuaklllvfqwwjussscmlllmklt

set2:ohpozpypubllylrzhoiaylzhvylhtubhkbhahunvuvfuahhufphlduurzlkapfbuhuctyahyvzplwuusvajnkpcpsluhplhhsvlupaazszzauhhyuklakuhlsvbpacuwjyztpvplyjijuzilpyuyzjlwzkpatahzyuossazhahpksjklvsklrzhbysttusdoypsjbkzyhukjdhzoovahzyorvvtalyyyllqhsyslwvkvhluplgzpazlvavpluvzhpkuyubvvpydubwpmmuanmlvduhzphzsapulvpabjkdpabpuswzuvpatpssizlolcalkduwkyuhwkvtwyyopzmpulyuahbzvjfbzaluylusaslpddvurppostylbyoyalvtzjuuluuhatcuhbhczkvpvaknpzlamlezndljvaphupulhklhcotkyuptunsopkzhhvpabhvhjhpuyjlpvlrhrhlaolvwzypszlyvspvdrtjzpwyjlulsuulooyparbabaaajhpwakuzsyuppcpulalllaplavalusoujdalhlaldslzaldmpudkpkhlljuzulllvpjfipohrappsnuhnvwpkilazjywhblovftonluuphnphryrvuyhpmyuzsaabslvyaalhakzbjuphallallvyuvpyjuuhlzppklvjozutazanabvnvvhrykoajbypyhvkazafllluyyulyoumldwaazlaflalmkhbvlvhduuhsjkjjlphjtollwuwalzpyajhvfphlplfplzslyvabrypaathzbappzozkvafvhvtllyshbztlaldshrsvmcpojuwjbvdasshazmpplyvlzzoolyyaadvbhaazrulylpnawularlavhtjpobmvuynaldlbksjpbhdthhayvclahhhdpuhlbashvzknsjbksodahvkapjmhuvlunvuljllashruyvulywhlhbhaokojonyaphwhatljzalwwjlwdykyapjajbzloyokuvvhlvsmphljcyaypurukvlitmavuzhrvphtlaumlnvpysnyvpjfcljzazpahhlyyaoshfywklalyavuzabzvbupivjloldvkswyhashplnlslahhs

set3:qvkizdwvmzxzbebbvmtqmbkenqvbwxzzxktpaqijmxwgekvkkvxvwowwuzqwxxzbqbqqmtukzmbixbzqvpwkgvqokazatztvlvzuvzimaeipnbzbmzzmiidvmczommucaubxkvkvzmwwomtliimvbzacpivibzaxamiabwwbpbajgmkuzgbebqzvqmmimammivgmtckcvgqpwukmqvmabciqzzqiamiwztwaiikqtjixuilmuqihmbdazcvtmuwkhmmmlmvuwmwmbzmbqowwwxazobakjkmbndlbvztwmmbpvmwetvolvwmkkgzjamaigfuiowqmlbiwbqwammvcammvigwtuvvwiaawomeambqzevmpkbmzvmqiivamqzaxvtnwqlzbkzcumglksmmvzhvpmmzbakwummumapnadtbvkzawvamiikilvijpqizqajpnbmmbevwoawitovaivbmdvqmvnibcbxwqvagocbmlgmbmcpzmaiiaaiqzipmtaomqibzvzwemqwbwmlqbqkgivmzzgbeklwgmbgiibztwkalibwiwnvmqqjltzismilwbbummpmblbaiokgmoaizpkbmbbbiibztdmxzmipdlkvucnbmmqzmskvimmxipiabdzkiaxtpmmatozjqkbbzzcmwbioiwozukmlimqiqjljaqwcpvnqabbampbpwiwaiqzlbzebxvzczlyzbwlqvmtqbqieazbbnibuniakmqiobbiszlliswipzaotikxjvibzjtvvznvaaxwwqvumtiqvwpiubztmmbzbwvpabvciaialkbgatwkalbalammviwaczzvmxmlkpbxbvqvkbcbwwbwwmeqvmdmiamwmmzawwmblqmkgkbiibwvvzlmwwqvabwtqbksvxvvqxnmvgvtsvvmekvqqzexntiskplvwpzcwmbczvkiboislzmtaeibaaiiopmavzoltpmekqmmixlvaomuemqwqazbimqwlwqvmistblmimbmzzavawcbvzgqmqwvmmkxbmtmuqclqjlnmzqtmkxzqcoacgwbwiwmamppxjgnzqvwiitzwdzmbmetpzjipaacakltvtamzmebwpivqlsaiolwzizxm

set4:fnygrrzggpbfulvvqevbsbhnfrvvgvrferyrryygqrsgnxqrencgeseehbpefvrrajpmplnbnplpnyrnsrzbggrvbbrrzfspnrgrqlozcbarbvrrurnfgyrfaggnfonobnehnfurrahyyfvzbewnvhnovztsubannjapuyanteunpnbcujulvfvpgpaqzorrbnffcpbqqfbnzlnjaczvuqqaqcapfpaqnvyjfabinhpnbewgnazrnurgnftrqgaxrpqfgffaaiangbgepvybehrvounybhouvbnuqlqaeyurqfebnvnrvpauvnbnbgneffnfgfgffgcrcgegnycvgfiptbfqrnnaavrefvevzbbrbrirhfgjgcpvegjjavgbgrezrtanvrabeqrufcartnfnebpngnegewrnffsvvyufrrrpgnagabtgsgegtfefvbbyvvfnngirvgeretggbgergaqfpauavnsarfghgbgboplepajqqeggccahnrycutqbgbrtbsrfasryfgfubheetevrjbjnbgvrboexvnyyujgfjgaeggggfhrbigfvvfsnrcfanrjqggeanyergarvnusunlyzbgnragrngrrgbhccggeyaggfggvfvrgrprvrfvegyyrsfqbgpvrnunfrghjryraggqbueggzagarghcoqvrgbanuguprfraeslxegbnbrurggzrrhsjhnsnovbnafrvpnfrtroegnxaairvbgfrnzgfeahqhfrpgbybgbrnbthbsggnnesarzqzcfiervrrelsanrbfrrguqytgpjnxvfnyyujggjogpnfezgorpgorptxrrnvtarxetrfuujgqbyggrepnqsavaavuarzanhnnnvhfyprxlavgghfnjgefnrnnbvbnnegbgyrgggubvbarvebbggprgrerrcmepvbsvybxalbcfngblgfbcpshqnbbarynovngyfaerqzrqnfcqsahbygegcbgbczgfqbvvpgrjyfrngfgvqtfpfazggqberfvavnccoebfgapceryvaeurqbzrahhabfnrbvgrqarzpfrtavbebpfqrgnarvrygbrrbbvvaaaufryfbnnzlroaztrez

set5:mviagheiwivjisqqstgryhwzxwkrmgwesvsqhppetvwlwijhmpeposxivyxwsgwvqexiimnvxyflvcxxsymqliaxtjphwsmmxreryrpeevhvvsthyhfsepfxejcflihpjmifxaezxxxhixwizgspgtvprehvmzitrwreiicavievsprxssisqwrlesxieirbvvywvixmwxgmetpekstdemyhwvixhxhyrrmijmrirmpxzssmkijpwirskxwejlcjppxtsxjeempfltceorihxvsxvpviyxyexpriyafwipmfesqvgtpgrsxeirsvjmrmexrlsxstxliwivxsoeyxsaisirxsrxpshrhkghmrerrzrlirqqlesyhriximsksvlestwsqkirgrqiwplvxaexaaejyrlpxsgyrwiierhcmxxpsywrxhhzilsmsxlwigsywiqwxpviixwlxxshlyaewfikiismeggvxxxmsvlxlaiyixiiexekmeiwewvpcviirrivkxfmewesgswvwwvvigmetxeolrrsrzjifmgwlhrslmeeiolimlxxrjmxgihsxvhevxzrmselimrepvmhwwxesigtptemvpwlwxlvplrimelewsklaitspgigieoqtgjrksssmixmwlepwyigaewrrrxxhlsxjrwlewhiellxspmwgvvhriemsmmwhxxieiiwgwrvvslfghesswrxregrggirbivwvvviihxwxiiqzvxmewixsisrkwmeoswixivtfseqjiasfvexxxitsigishrwqigwxxetmsasemhmexsxvrxwlhrslesiixkxiqlpwilfsssxwqvsxxxemkhieirirvpmsmrgxsxxrisregreqcvhxofweilxwssrehrcorlgcrhgrvdrvkrfyvchliesqgroxhivfxsixiapvepiemxqvwslshsxpxvrvieijtlmrkvvjmwirehtcexwsvmerxxzvixgphmmzliwirpsxaftrvosgwhxwvlwmiiiiiykeixsysxxwxpkwspiascilewsmqirfbmytgfwlsyxvvrpskxxxeojriwgzwplamwvrhvrwherviqwjrixeixqxerxqgwwyksirs

c)

|  |  |  |
| --- | --- | --- |
| Sets | Letter with highest freq. | Assuming this letter is “e” then  the key to decrypt this set is |
| set 1 | w | s |
| set 2 | l | h |
| set 3 | m | i |
| set 4 | r | n |
| set 5 | i | e |

d)

thisisanarticlethatwasreceivedfromaninternetsourcereportersforthenewyorktimestimeandotherpublicationsrefusetodiscussawaveofstoriesdenigratingmotionpicturestarsandproducersallofthembasedonillegallyobtainedpropertyofsonythatwashackedandfencedbycriminalsapparentlyworkingfornorthkoreasmurderousdictatorshipsonypicturesentertainmentwasvictimizedrecentlyinamajorcorporatesecuritybreachapparentlyinretaliationfortheupcomingcomedytheinterviewdigitalcopiesofunreleasedfilmspersonalfinancialdataonentertainmentindustrynotablesemailspasswordsandotherinformationareportedonehundredterabytesofdatainallhavebeenstolenaboutfourtygigabyteshavebeenmadepublicsofarmainstreampublicationswhichareneverreticentaboutscoldinglessestablishedmediaoverarcanejournalisticscruplesarepublishingdamagingdatafromthistroveasnewspapersandnewschannelscallthestolensonydatawithgreatrelishandbarelyconcealedcontemptforhollywoodthenewyorktimesissharinguncharitablecommentsmadeinemailsbetweentheextraordinarilysuccessfulproducerscottrudinandsonystudiocochairwomanamypascalthewashingtonpostemphasizesthatrudinhadunkindwordsforprominentactressdirectorandproducerangelinajolieaswellasforanillconceivedplantobuildacleopatramoviearoundjolietimemagazinessamfrizellteasesthesevenmostoutrageousthingswelearnedfromthesonyhackfrizelldeclinedtorespondtoquestionsfromnationalreviewonlineabouttheproprietyoftraffickinginstolengoodsforthepurposeofwritingbreathlessarticlesaboutscuttlebuttthatifitinvolvedanyotherindustrywouldbeconsideredwellwithintheboundariesofnormalworkplacesnipingalsodecliningtocommentmichaelcieplyandbrooksbarnesofthetimesandvarietysalexstedmanawashingtonposteditorrespondsthatthepaperdoesnotpermitreporterstobreakthelawinpursuitofstoriesweneverencourageanyonetostealdocumentsnationaleconomyandbusinesseditorgregschneiderwritesinanemailtonationalreviewonlinehoweverwhendocumentsmaketheirwayintothepublicdomainoraresenttouswearewithinourrightstoreportonthemleaksfromcompaniesandgovernmentagenciesarenotuncommonovermanydecadessuchleakshavepresentednewsorganizationswithawiderangeofcircumstancesthatcallforthemtoexercisejudgmentweassesseachsetoffactsindividuallyinthisinstancethereleaseofdocumentswasaneventthatdemandedcoverageandtheinformationbroughttolighthasstirreddiscussionaboutahostoflegitimateissuesthatalsowarrantedcoveragethisisanotherarticlethegrowingddosthreatunknownattackershavebeentestingthedefensesofcompaniesthatruncriticalpartsoftheinternetpossiblytofigureouthowtotakethemdowncybersecurityexpertbruceschneierwarnedtuesdaylargenationstatesperhapschinaorrussiaarethelikelyculpritshesuggestednationstateactorsaregoingtoprobetofindweaknessesinallofourtechnologiessaidtravissmithseniorsecurityresearchengineerattripwiretheywanttoknowwhatcanbedonenotonlyintheeventofacyberwarbutakineticwaraswellhetoldtechnewsworldtheeasiestwaytotakeanetworkofftheinternetiswithadistributeddenialofserviceattackschneiersaidandsomeofthetargetedcompaniesrecentlyhavebeenhitwithddosattacksthataresignificantlylargerlongerlastingandmoresophisticatedthanbeforetheattackstypicallyrampuptoaparticularlevelthenstoptheyresumeatthathigherlevelandthencontinuerampingupasiftheattackersarelookingforthenetworksexactpointoffailureschneierspeculatedtheattacksusemultiplevectorsforcingtargetstodeployalloftheirdefensesthusdisclosingtheircapabilitiesbecausetheattackerswhereaboutsareunknownpotentialtargetscandonothingtowardthemoffschneiersaidthedataseemstoindicatechinaisbehindthembutitspossibletodisguisethecountryoforiginddosandotherattackshitrecordheightsinthesecondquarterofthisyearakamaireportedddosattacksrosetwentythreepercentoverthenumberrecordedinquarerfourtwothousandandfifteenandwebapplicationattacksincreasedtwentysixpercenttargetssufferedagreaternumberofrepeatddosattackstwentynineonaveragemultivectoredattacksincreasedasdidmegaattacksofmorethanonehunderdgbpsusingsimpleattackvectorspossibleornotstateactorsareprobablylookingatanumberofdifferentwaystodisablepartsoralloftheinternetcommentedpaulmockapetriscoinventorofthedomainnamesystemcurrentlychiefscientistatthreatstopddosisoneofthewaystodothatandiwouldimaginestateactorswouldattackroutingsystemsaswellhetoldtechnewsworldtheattackswouldbemosteffectiveagainstsharedcommonsthepublicresourcesonthewebbutpeoplecouldgobacktothesystemofpartitioningtheinternetmockapetrissuggestedthosewhohavetheirownprotectednetworkwillcontinuetohaveinternetaccessatakedownoftheentireinternetisnotgoingtohappencontendedmartinmckeaysecurityadvocateatakamaibecauseitsawholebunchofnetworksandyourenotgoingtotakeitdownunlessyoutakedownallthecircuitsyoucantakedownacompanyanorganizationorpartofagovernmentbutyoucantreallytakedowntheinternetasawholecommunicationslinksaretoowidespreadforaglobalattacktosucceedhetoldtechnewsworldthereareacoupledozenterabitcircuitsfromsanfranciscoalonetohongkongandtokyoandotherplacesthelargestnetworklayerattacksseensofarapproachingfivehundredgbpsareanorderofmagnitudesmallerthanthebandwidthcapacitythelargesttransitprovidersandispsmanagenotedtimmathewsvicepresidentoftheincapsulaproductlineatimpervawithproperddosprotectionsinplacemostattackswouldbestoppedintheirtrackshetoldtechnewsworldworstcasescenariosthelossofutilitiesandemergencyservicesresultingfromaninternettakedowncouldpromotetheestablishmentofmilitiagroupsandpossiblyabreakdownofsocietywarnedmichaelpattersonceoofplixerimagineyourneighborsexcludingyoufromprotectionbecauseyouhavenoresourcestosharetheresponsibilitytosafeguardtheinternetfromattackshasfallenlargelyonserviceprovidershetoldtechnewsworldintheshortrunbanksandotherbusinessescouldsustainconsiderableeconomiclossesiftheinternetwentdownandtheylostephemeraltransactionaldataakamaismckeaysuggestedbutlongtermoutagesarentaproblem