

Workshop 01.0 - Hardware Elite 8100-8300

SLQ Wiki Fabrication Lab 2024/07/27 11:22

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Maanta waxaan:

- Magacaw kumbuyuutarkaaga
- Baro qaybihiisa kala duwan
- Kala fur furi /oo dib isugu xir xiri si dhaqsi ah

Kumbiyuutarka

Arag macluumaadka aasaasiga ah ee ku qoran leebalka:

- **Soo saaraha:** Hewlett Packard.
- **Nooca:** 8100 Elite.
- **Qodobka Foomka** (cabbirka): *Qodobka Foomka Yar (Small Form Factor - SFF)* -taasoo la macno ah inay tahay boorso ka yar (muhiimna u ah iibsashada qalab cusub).
- **Nooca Kumbiyuutarka:** PC - [Kumbiyuutarka shaqsiga](#).

Wax kasta ka hor mari Amaanka (safety first)

Ka saar filada korontada inta aadan furin boorsada.



- Gali/ka bixi fiilooyinka ku dhagan qeybta wax isku xira (connector), ma aha xadhigga.
- Ka digtoonow kashawiitooyinka mudaca ah/cidhifyada mudaca ah ee qaybaha kala duwan.

Qaado nasasho haddii aad ku wareertid. **Had iyo jeer caawinaad waa la heli karaa.**

Qalabka

Waxaad u baahan tahay dulqaad, booska kursiga, iyo qalabka:



- Kaashawiitooyin
- Tirtiraa (Wipes)
- Buufi oo ku tirtir nadiifiyaha
- Tuwaalada warqadda ah
- Thermal paste
- Nadiifiye (vacuum cleaner)/hawo cufan

Dhinaca dibadda ee boorsada (Case Exterior)



Wipe it down and look at what's outside the case.

Ports/Goddadka/Badhamad

Meelaha caadi ay iska galaan (*ports* ama *sockets*) way kala duwanaan karaan marka waa inaan si sax ah iskugu xidhno:

Korontada

Meesha saddexda godee korontada ee filada korontada la galiyo ee Unugga Korontada Bixiyo (Power Supply Unit - PSU).



USB

[Universal Serial Bus](#) (USB) duleelada la galiyo aaladaha USB.



Fiidiyoow

Ku xidh shaashada kumbiyuutarka/TV-yada [Video Graphics Array](#) (VGA) Ports:



ama fiilooyinka gadaal la isaga xiro Display Ports:



Ethernet

An [ethernet port](#) wuxuu isticmaalaa fiilo wax isku xiriirisa si laisugu xiro shabakada/internetka.



Maqal (Audio)

Godadka maqalka waxaa la galiyaa fiilooyinka maqalka/jacks:

- Buluug = meesha maqalku galo (mikrafoon, iwm)
- Guduud = meesha maqalku ka baxo (sameecadaha dhagaha, sameecadaha caadiga ah, iwm)



Qaybaha muhiimka ah/dhaxal galka ah

PS/2 ports waxay ku xidhmaan kiiboodh/mice-kii hore:



Serial ports waxay ku xidhmaan aaladaha qalabyadii hore:



Boorsada gudaheeda

Meel fidsan dhig kombayutarka oo usoo jeedi dhinacaaga. Fur boorsada leh daboolka dambe.

U isticmaal furka weel ahaan si aad qaybaha wadajir ugu xerayso.



Sii daynta maayada taagan

Taabo bir dheer si aad uga saarto wixii maayad ah ka hor inta aadan taaban sheeyo, gariirka maayada ayaa wax yeelli kara qalabku wuxuu ka kooban yahay.

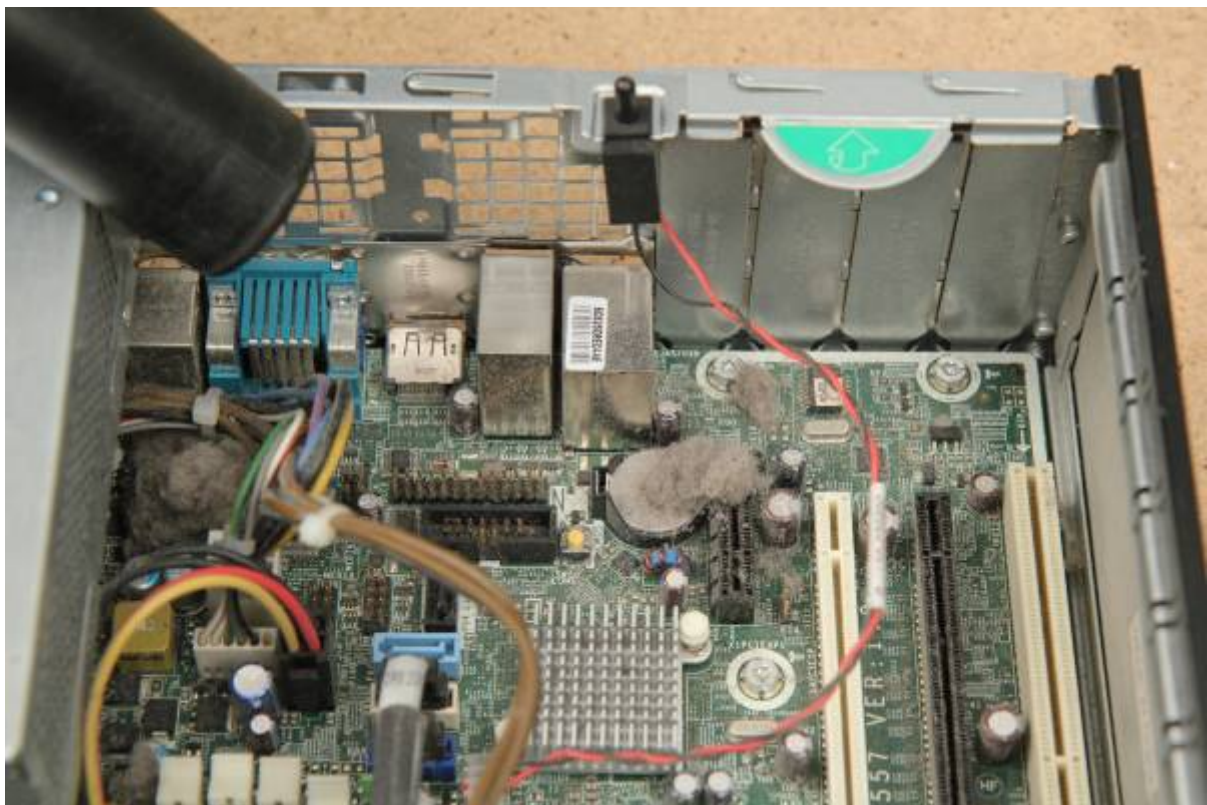
Nadiifi

Ka nadiifi busta ku wareegsan hawo mareenka/faananka ka imanaya dibada faaruq/hawo la

cadaadiyey. Ka taxadar - waxna ku dhufan qaybaha qalabka.



Ka dib nadiifi gudaha:



Ku nadiifi boorsada gudaheeda maro.



Qaybaha

Aan aqoonsano qaybaha gudaha ah:



Unug Bixiya Koronto

Unug Bixiye Koronto (PSU): wuxuu u bedelaa korontadaada ka imanaysa [xaruntaada](#) danabyo (240 volts), kuwaas oo aad u yaryar oo ah danabyaalka kumbuyuutarkaaga.



Waxay hayn kartaa danabyo aad khatar u ah xataa marka la damiyo/laga saaro dabka. Weligaa ha kala furfurin!



Motherboard-ka (maskaxda kumbuyuutarka)

[maskaxda kumbuyuutarku](#): waxay u ogolaataa in qaybuhu wada xiriiraan.



Hard Drive

Hard drive ([hard disk](#)): waxay joogto u kaydiyaan *macluumaad* (sida faylalkaaga oo kale).



DVD Drive

DVD drive: wuxuu akhriyaa/qoraa [Kaydiyaha qoraalka rogrogma](#) (DVDs).



Boosaska fidida ee PCI

Rakib kaararka si aad ugu dartid habab siyaada ah oo shaqaynaya sida [kaararka fidiyowga](#).



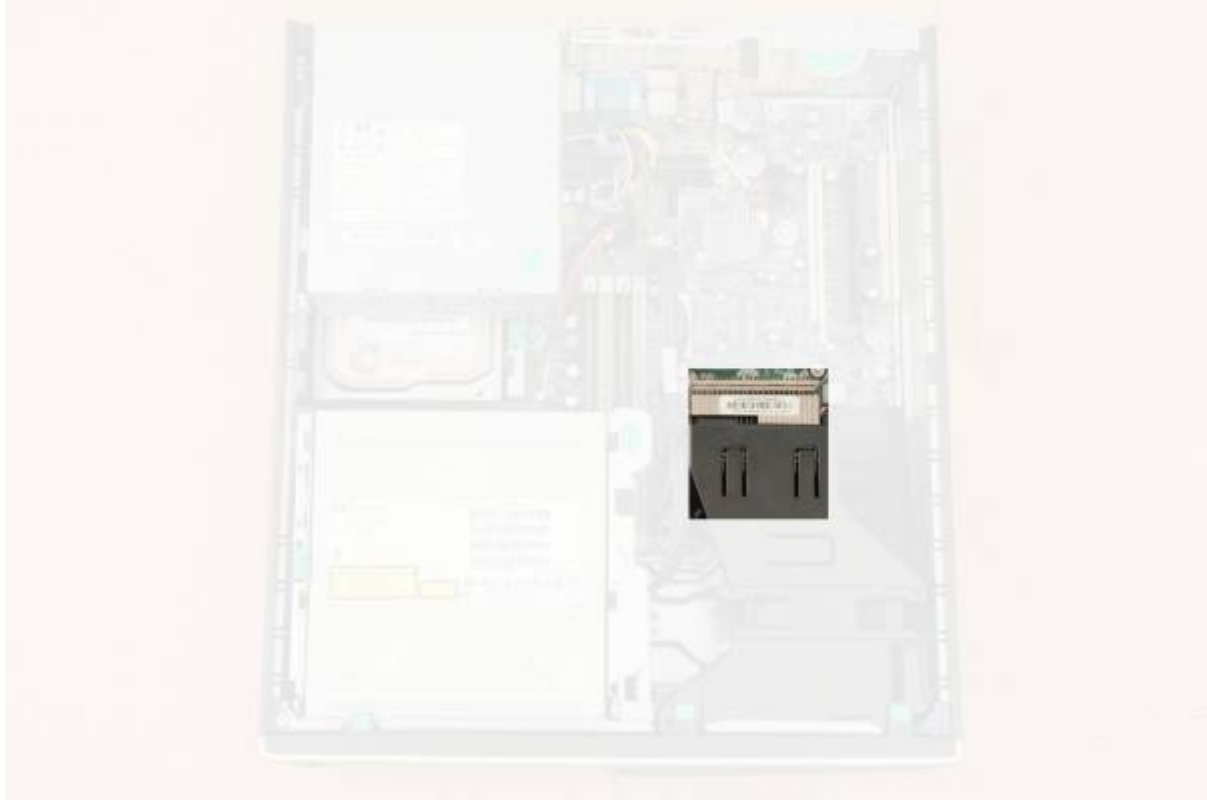
Aalad kaydisa macluumaad si loogu sameeyo barnaamijo (RAM)

RAM: wuxuu kaydiyaa macluumaad loo isticmaalo in barnaamijyo lagu sameeyo. Macluumaadka ku jira RAM-ka wuu tir tirmaa marka computer-kaaga la damiyo.



Unuga Xarunta Dhexe ee Habaynta (CPU) Heatsink

CPU: 'maskaxda' kumbuyuutarkaaga. Heatsink wuxuu isu dheelitiraa xaallada heerkulka.



Marawaxada CPU-ga

Marawaxada CPU-ga: waxay ku jiheeysa hawada CPU-ga/Heatsink.



Batteriga



Fiilooyinka

Fiilooyinka korontada: waxay ka soo qaadaan koronto PSU-ga waxayna u gudbiyaan qaybaha.



Fiilooyinka SATA ee Macluumaadka: waxay u kala qaadaan macluumaadka qaybaha kumbuyuutarka.



Kala-furfurida

Ka hor inta aynaan kala furfurin, sawir ka qaad qaybaha aalladaha tix-raac ahaan.

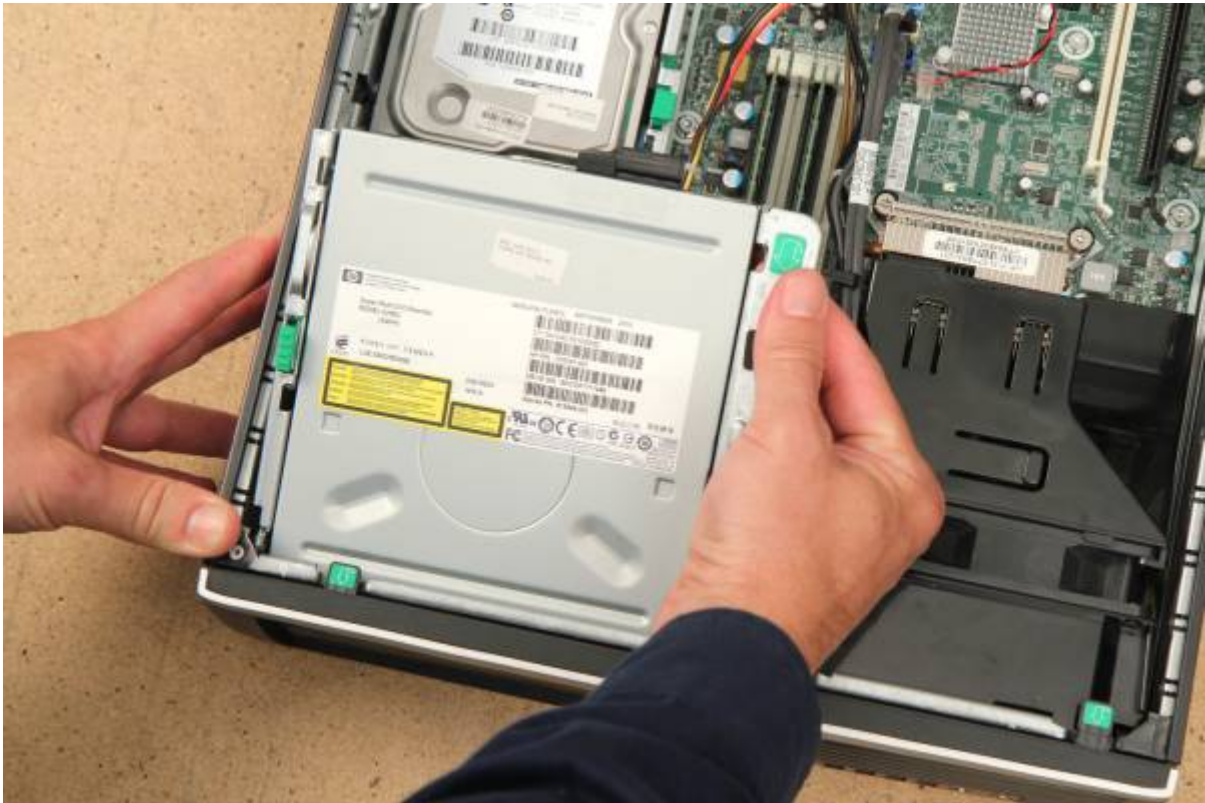
Taababka cagaarka ah/qabashadu waxay kaa caawintaa saarista badanaa qaybaha aallad la'aan.

DVD Drive

Gedi PSU-ga si boos loo baneeyo. DVD drive meel banaan si markaas si sahlan loogu isticmaalo.



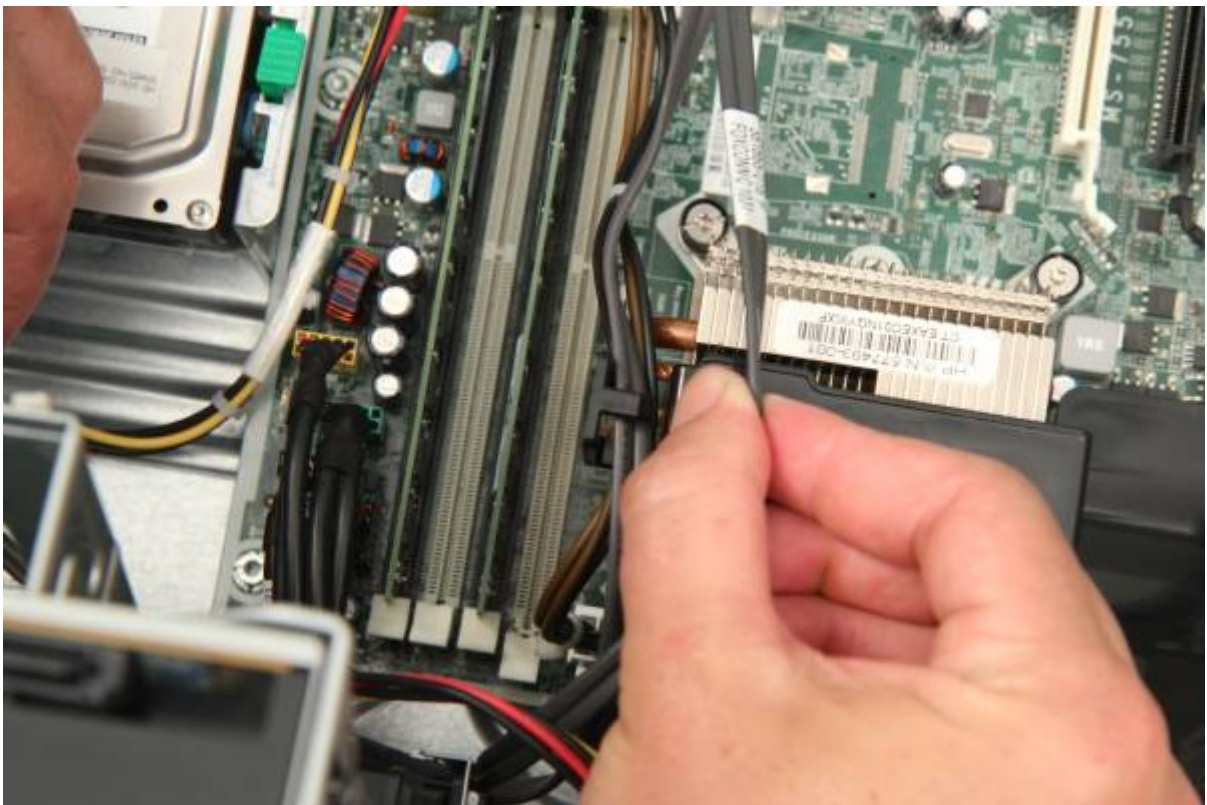
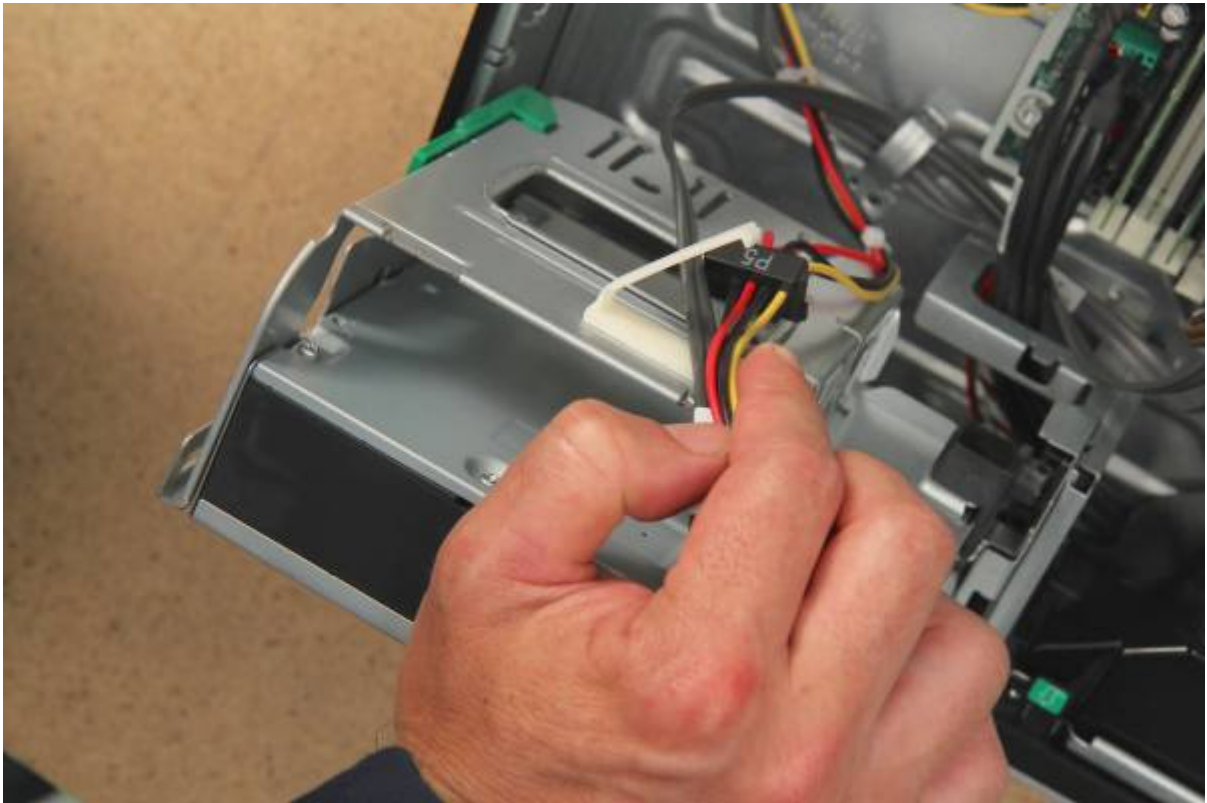
Soo jiid barta cagaaran ee midigta ku taal - bay-gu wuxuu lulmaa kor.



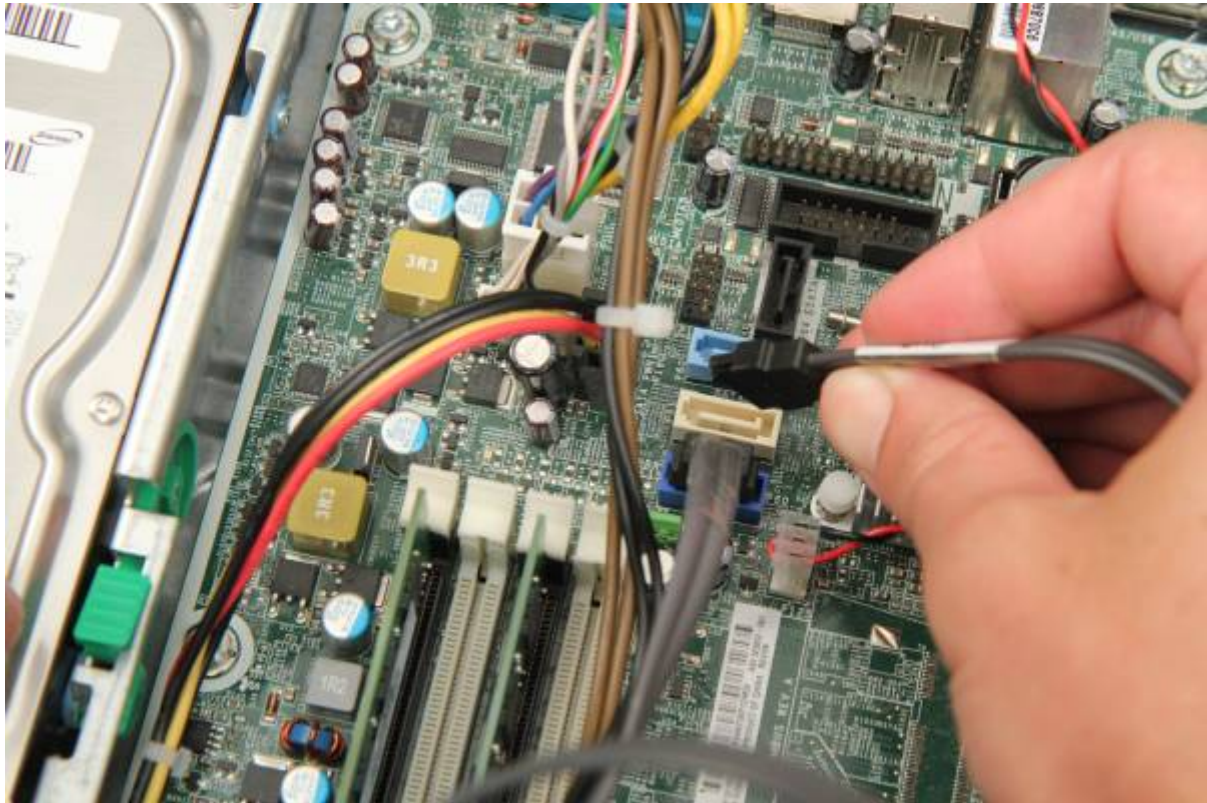
Ka saar korontada/filoyinka macluumaadka.



Ka fur hagaha fiilada oo madax banay fiilooyinka.



Ka saar korontada filada SATA-da motherboard-ka.



Hoos u riix meesha DVD drive ka la galiyo, ka dibna qabo batanka cagaaran oo bidixda ah.



Horay ugu riix, korna u soo saar si aad uga saarto meeshuu saaran yahay.

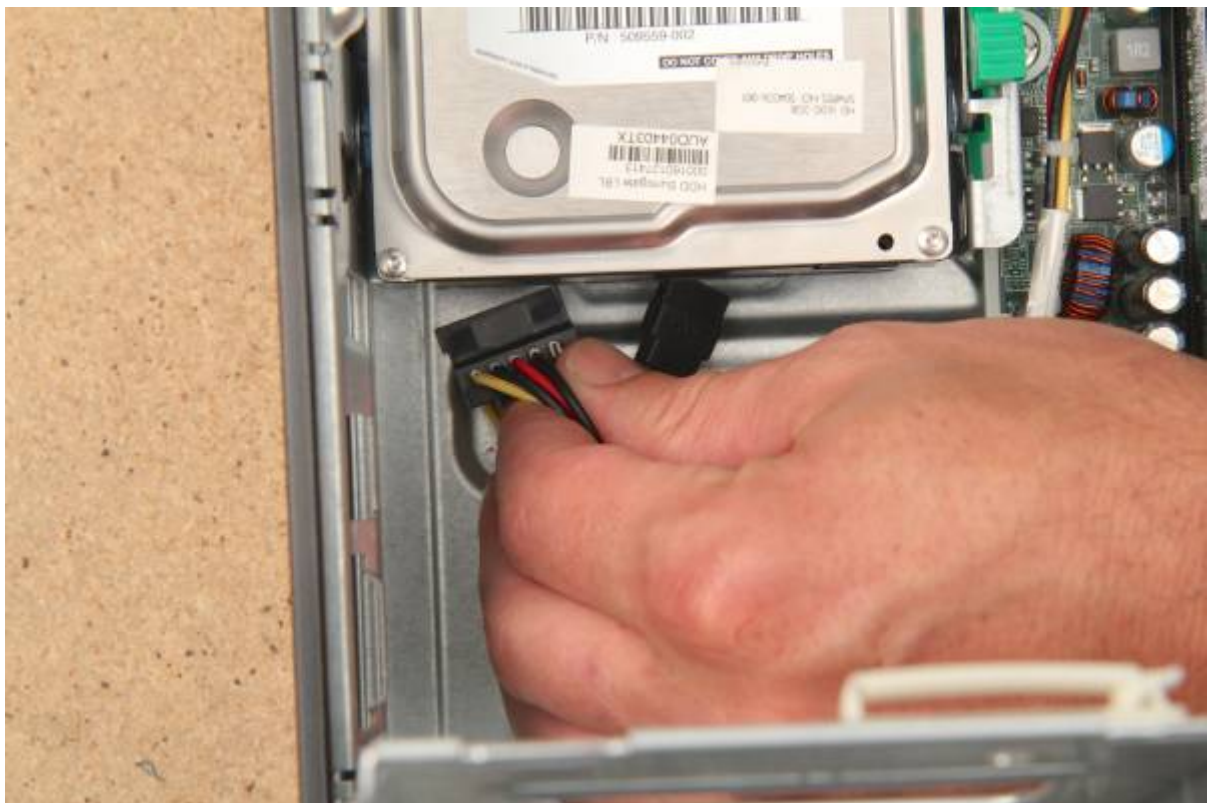


Sumada wadida waxaa ku yaal macluumaad caawimaya bedelida/cusboonaysiinta wadista.



Hard Drive

Ka saar korontada iyo fiilooyinka SATA kaydiyaha macluumaadka.



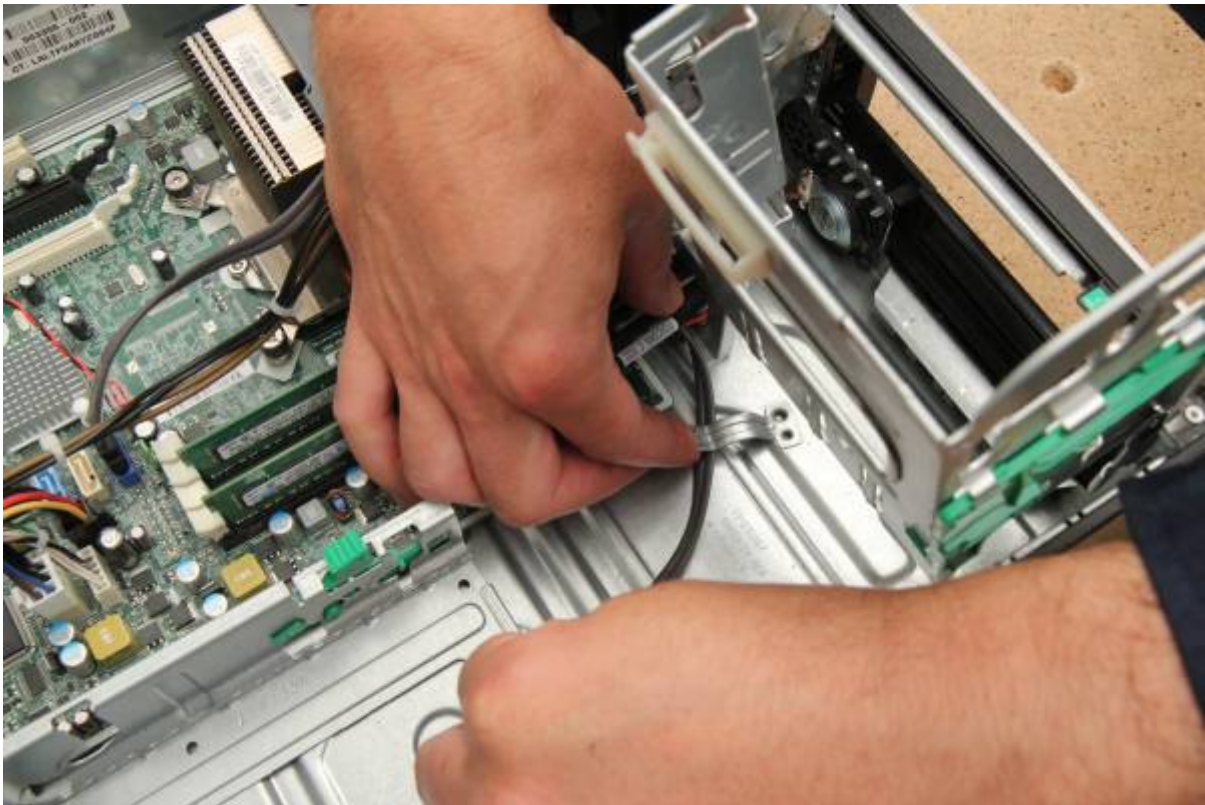
Hoos u riix cagaarka ku yaalla dhinaca bidix goobta kaydinta macluumaadka. Horay ugu riix kaydiyaha macluumaadka (Hard drive).



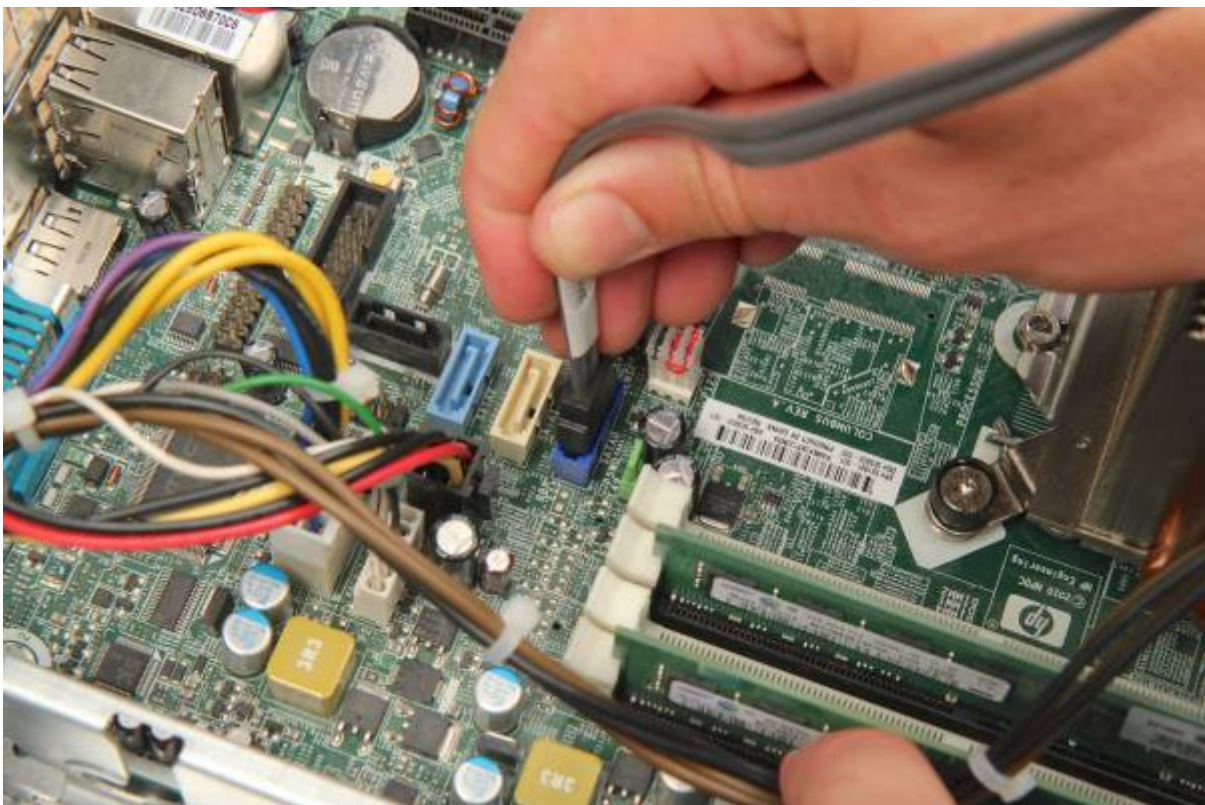
Si toos ah kor ugu qaad oo dibada u saar.



Ka bane fillooyinka tusaha filada.



Korontada ka saar filada SATA ee motherboard-ka.



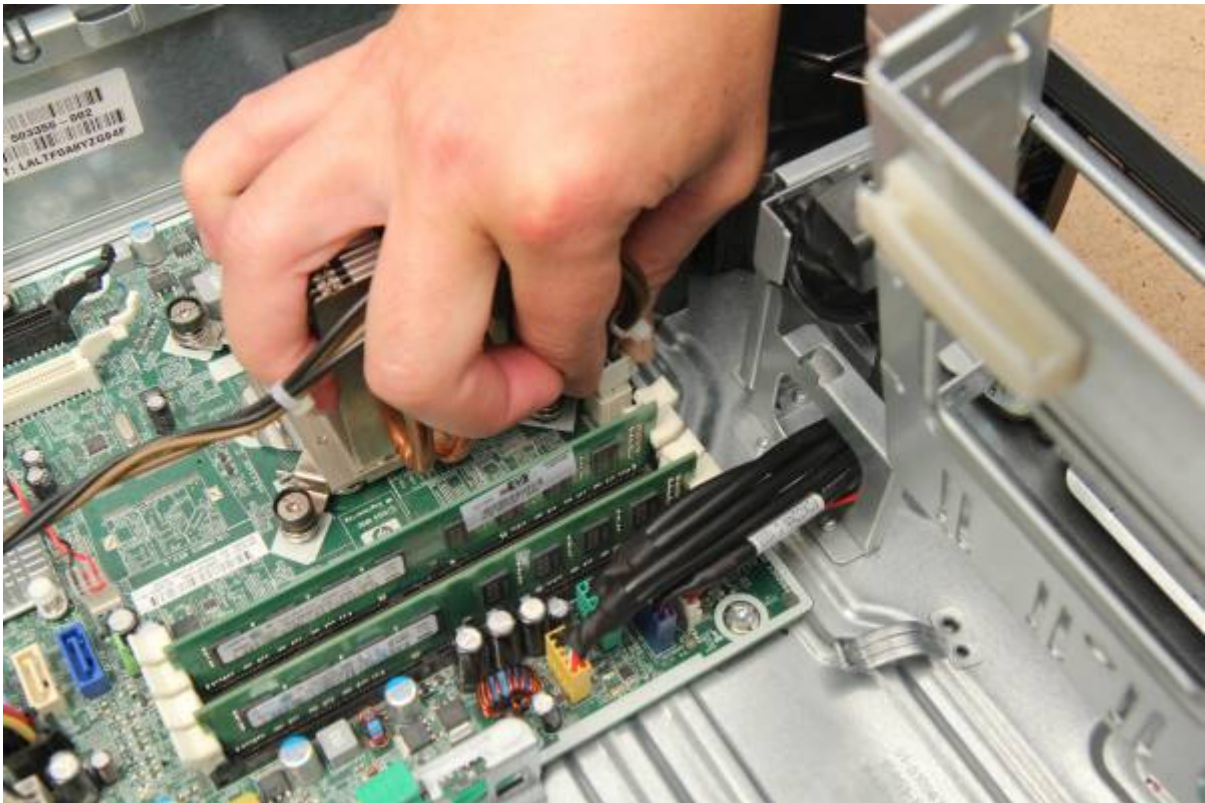
Sumada wadida waxaa ku yaal macluumaad caawimaya bedelida/cusboonaysiinta wadista.

PSU

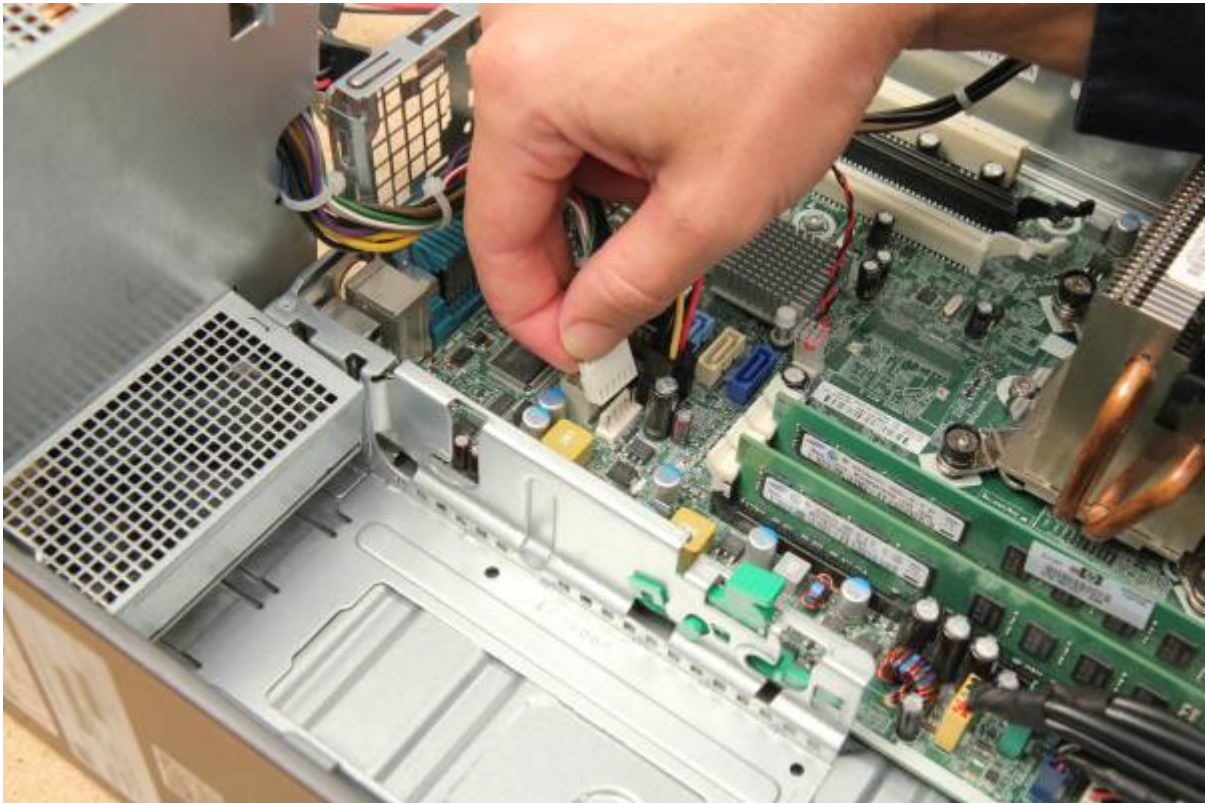
Ka saar fiilada korontada siinaysa motherboard-ka.

- Isku xirayaashu waxay leeyihiin isku-keenayaal- isku soo riix si tartiibana u soo saar.

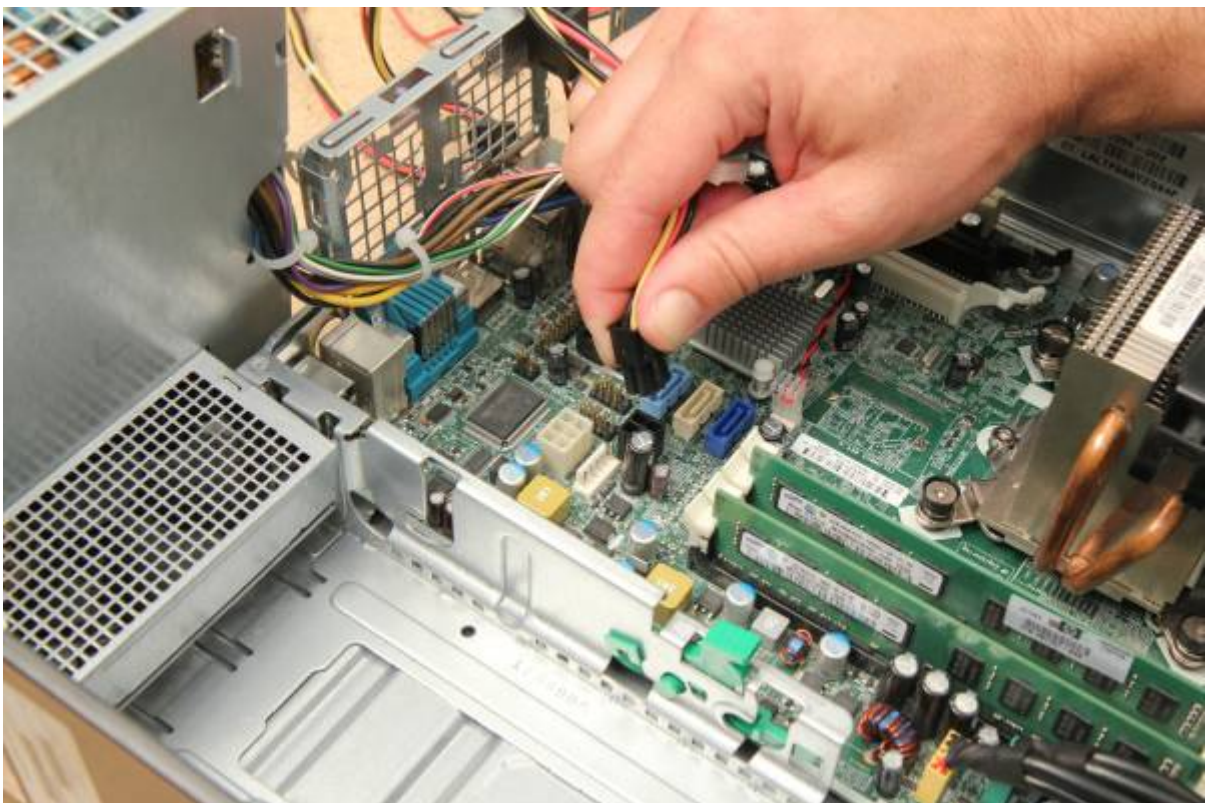
Fiilada hore waxay siisaa koronto CPU:



Kan kale wuxuu awoodgeliyaa qaybaha badankood:



Midka leh isku xirayaasha madow wuxuu ku xiraa motherboard kan kaydiya.



Banay filooloyinka, ka dibna janjeeri PSU-ga oo qaad isla markiiba.



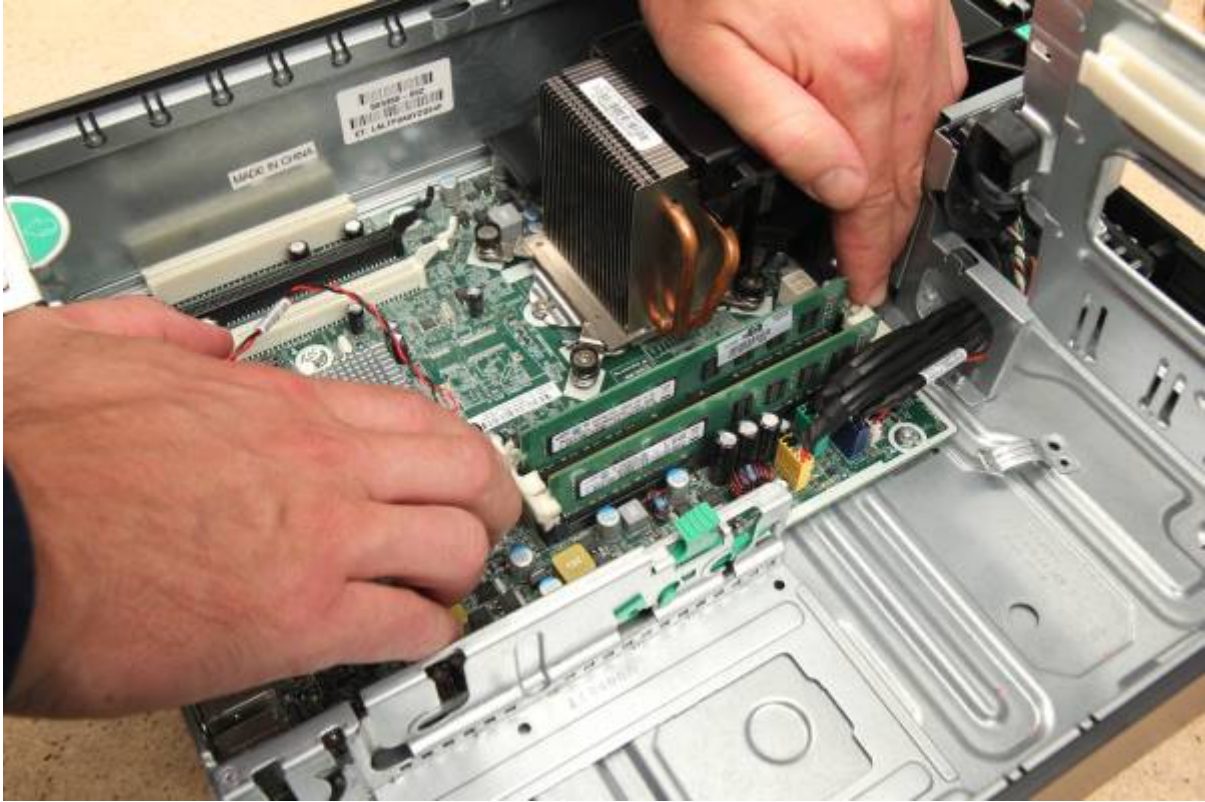
Sumadu waxay ka kooban tahay:

- Maayada gelaya
- Maadayaha ka baxeya
- Inta ugu badan (oo watts ah)

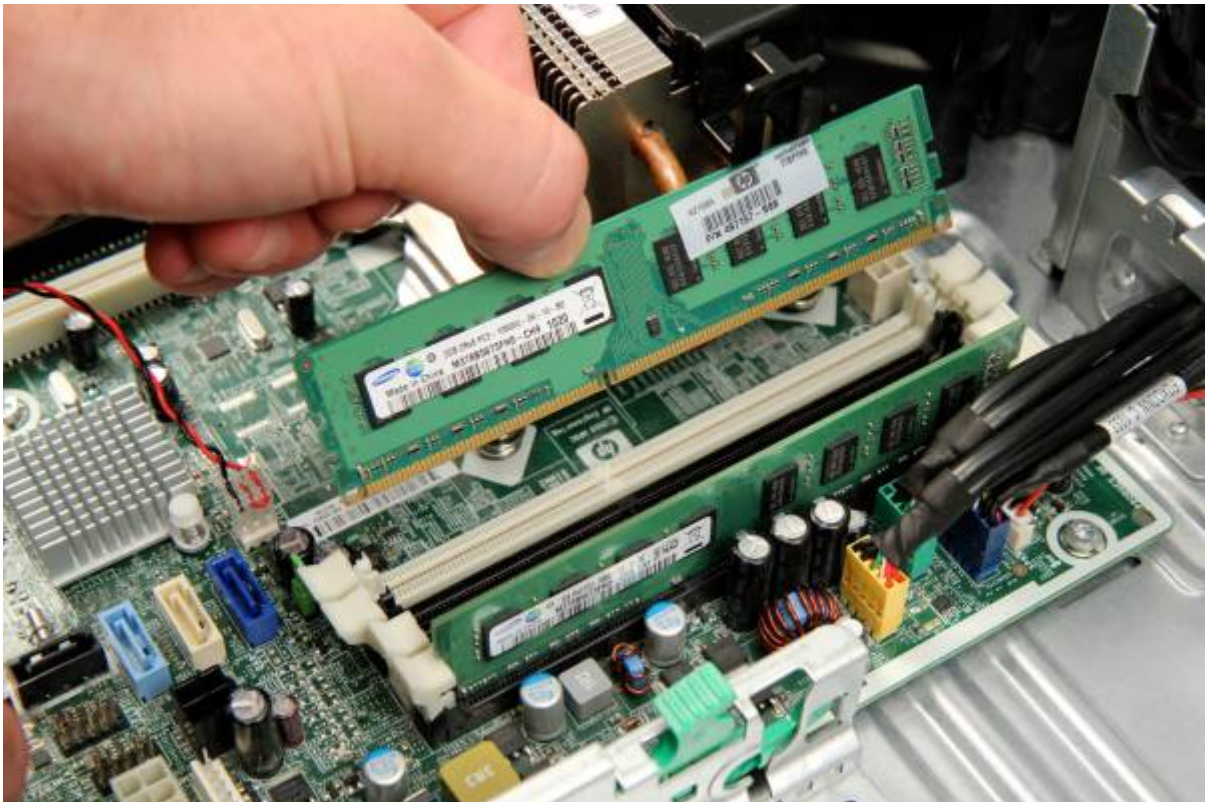
RAM

RAM-ka waxaa haya tabs (ama xajiyayaal) gudaha motherboard-ka ku yaalla.

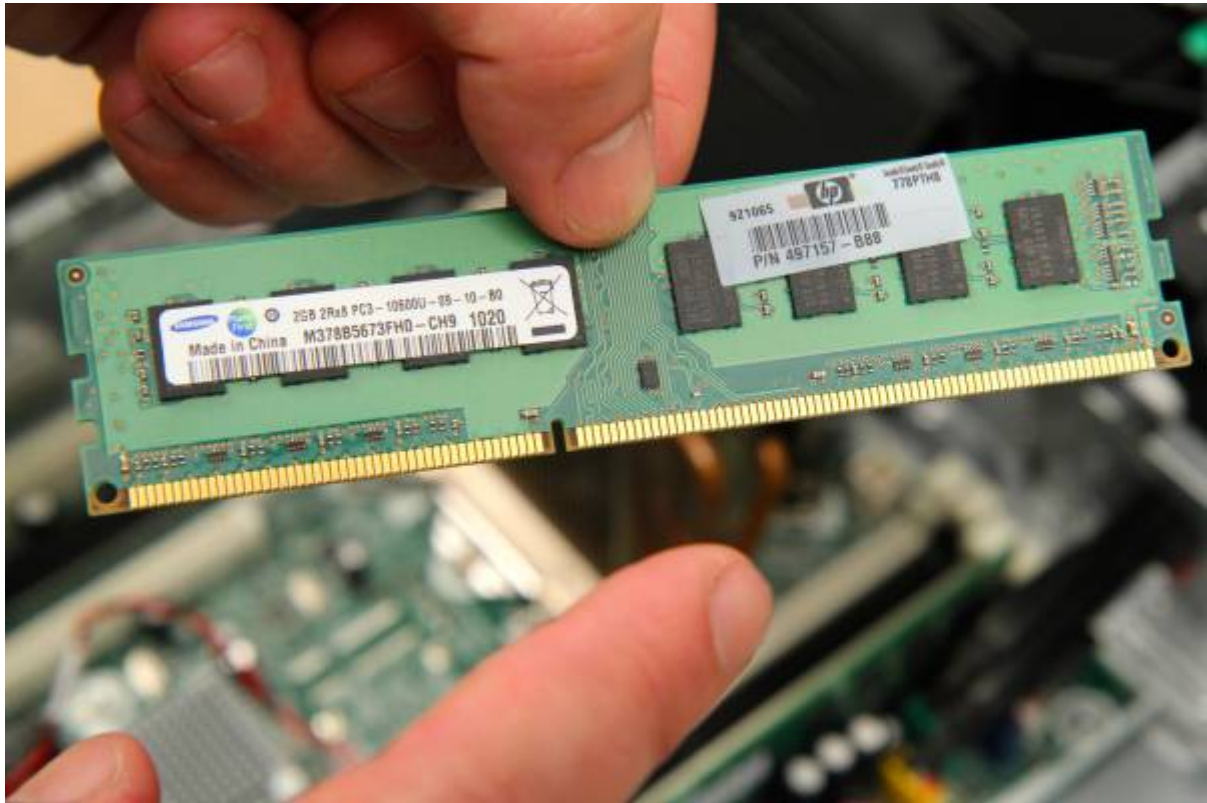
Aad u riix tabs-ka dhinac walba ee qoriga ugu horreeya RAM-ka.



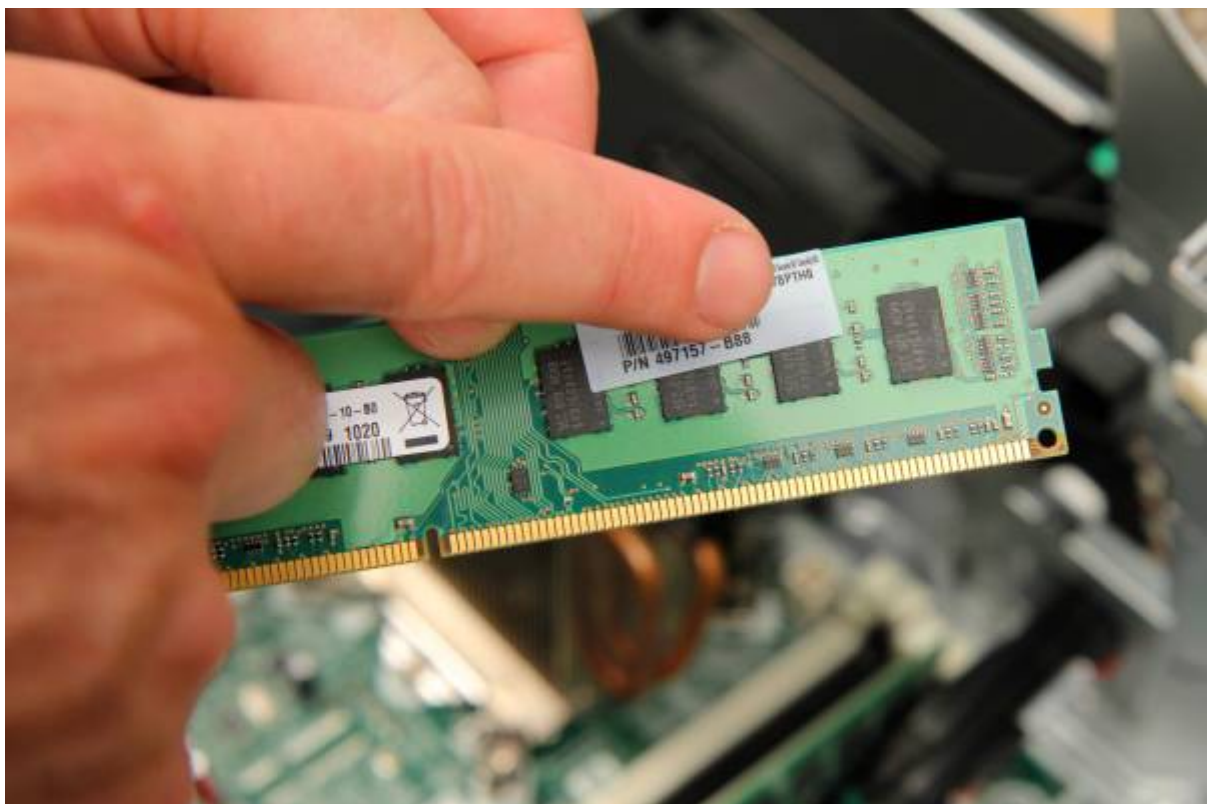
Banaanka u soo saar.



Ha taaban qaybta dahabiga ah oo RAM-ka, maadaama unugyada maqaarka/dhididku keeni karaan [daxal](#)



Ha taaban jibabka (chips) xasuusta. [Bixida korontada aan qulqulayn](#) ayaa sahal u dhaawici karta ama burburin karta.



Si taxadaran u dhig RAM-ka kuna celi mar labaad.



Calaamadu waxay ka kooban tahay macluumaad caawimaya bedelida/kor u qaadida RAM-kaaga. RAM wuxuu leeyahay **magac qaybeed** (ku dulqoran xaashi) aad uga baahan doonto si aad u dhinac dhigto **mustawaha magaceeda** (Sida RAM loo gaday) si loo bedelo/cusboonaysiiyo.

Noocyada RAM-ka guud:

Magaca caadiga ah			
DDR3-800D	PC3-6400	DDR3-1600G*	PC3-12800
DDR3-800E		DDR3-1600H	
DDR3-1066E	PC3-8500	DDR3-1600J	
DDR3-1066F		DDR3-1600K	
DDR3-1066G		DDR3-1866J*	PC3-14900
DDR3-1333F*	PC3-10600	DDR3-1866K	
DDR3-1333G		DDR3-1866L	
DDR3-1333H		DDR3-1866M*	
DDR3-1333J*		DDR3-2133K*	PC3-17000
		DDR3-2133L	
		DDR3-2133M	
		DDR3-2133N*	

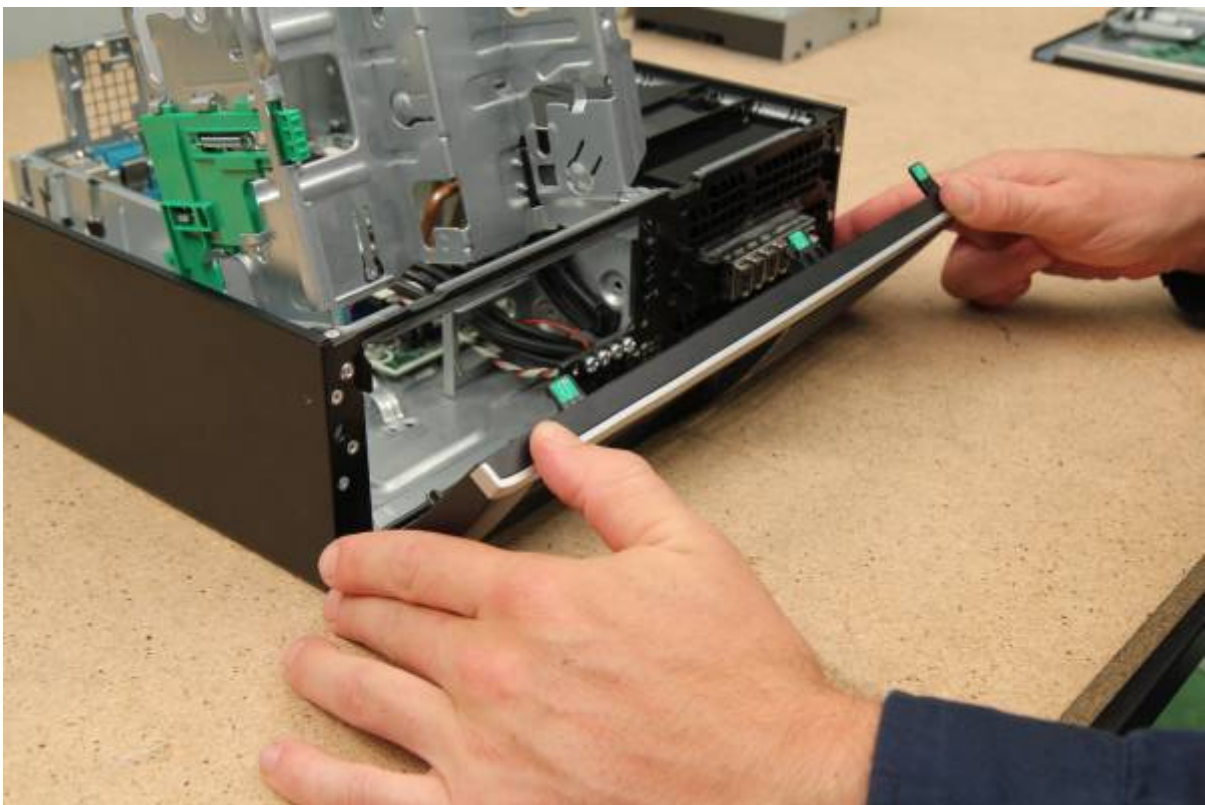
Wajiga Hore

Ka saar wajiga hore oo uu ku yaal batoonka laga daaro korontada.

Qaad saddexda tabs oo kore:

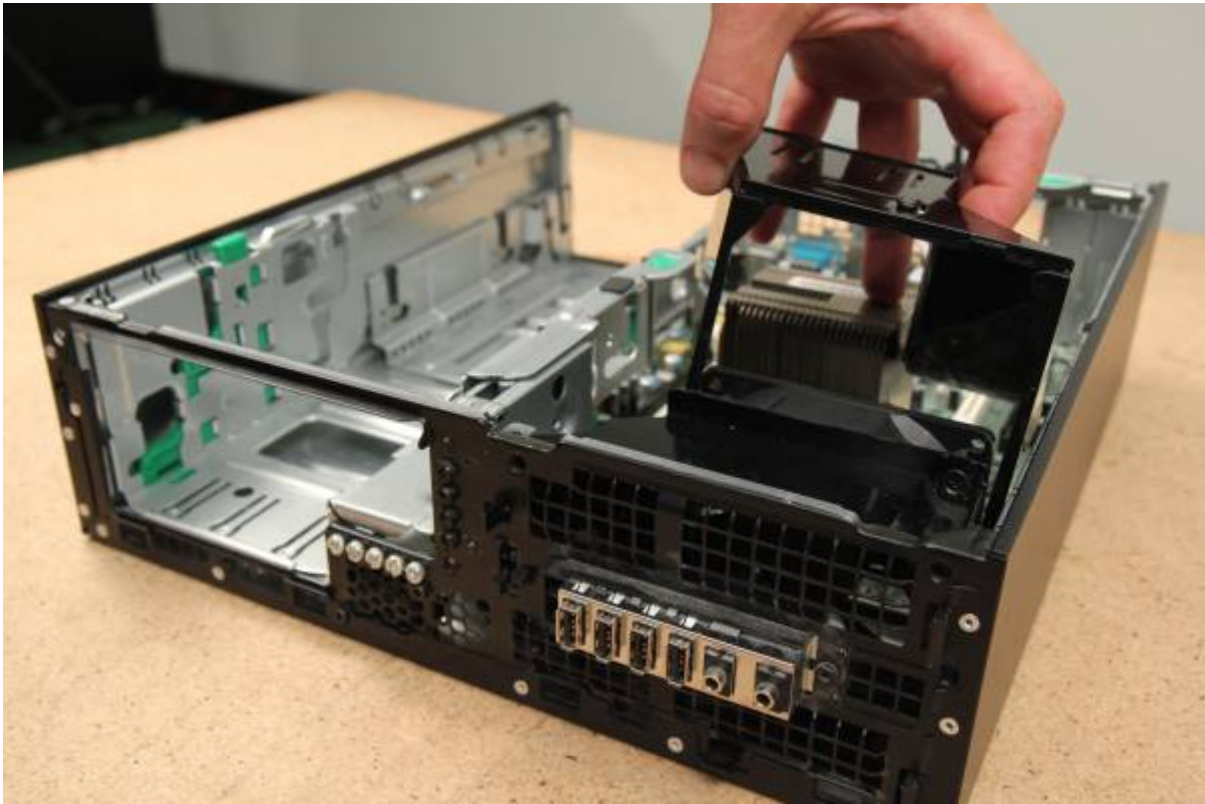


Oo ka saar.

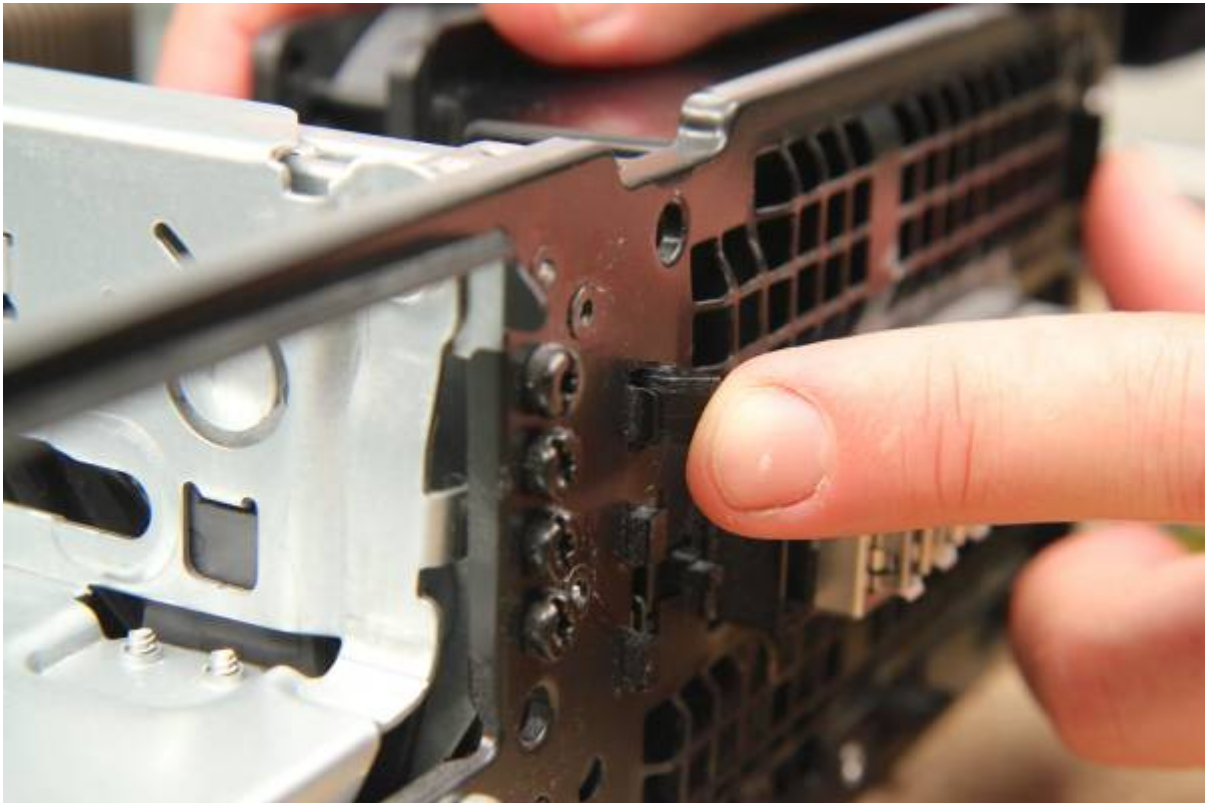


Marawaxada Hore

Marka hore ka saar balaastiga madow ee hawada haga.



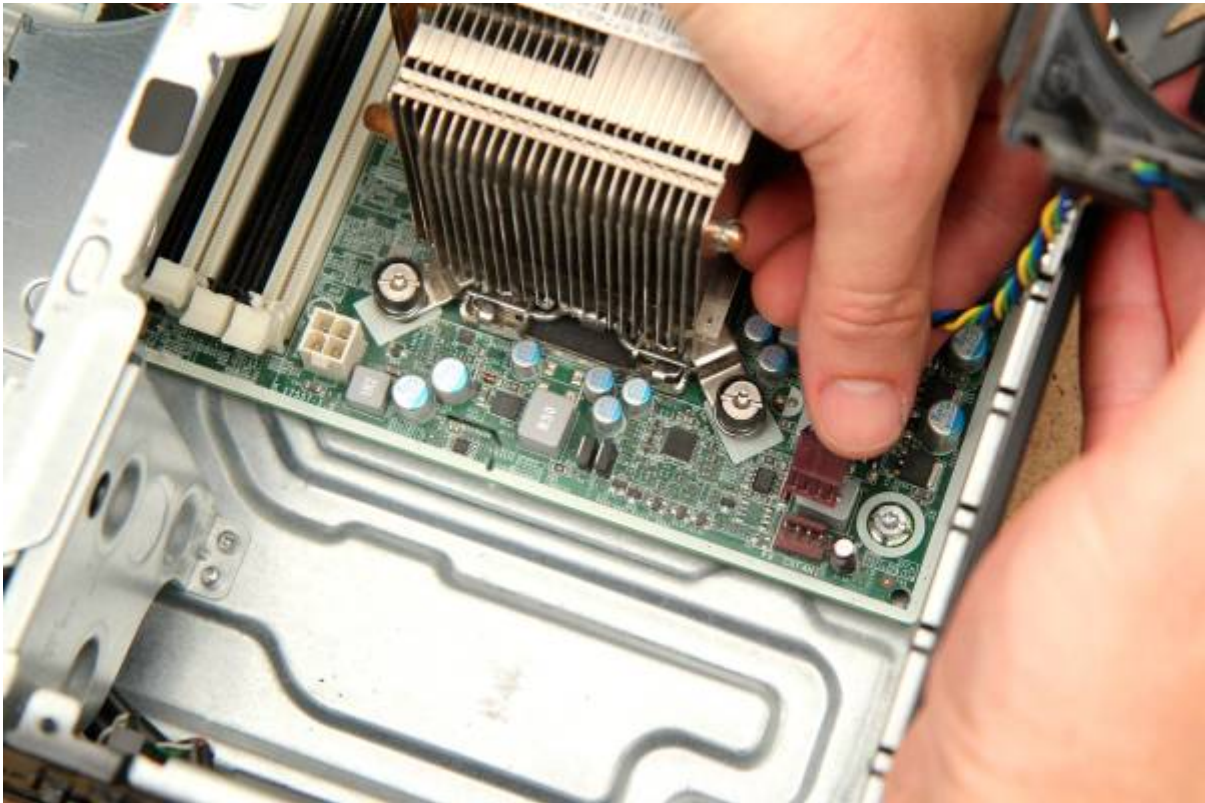
Afarta tabs oo ku xiran marawaxada chassis. Tuuji labada tabs ee kore:



Ka dibna riix labada batoon ee tabs-ka. Haddaad dhibaato qabto, isticmaal wadaha madaxiisu siman yahay.

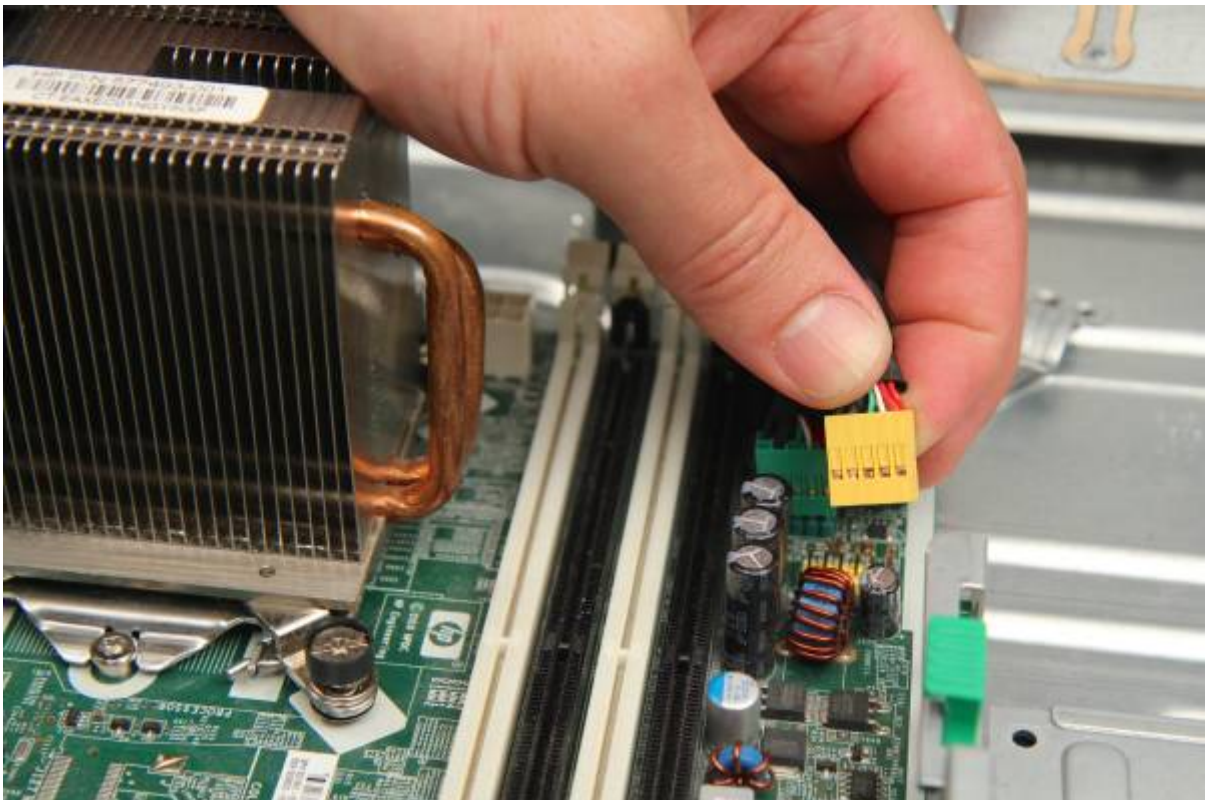


Ka saar marawaxada korontada filada meesha dabku ka yimaado. Nadiifi haddii loo baahdo.

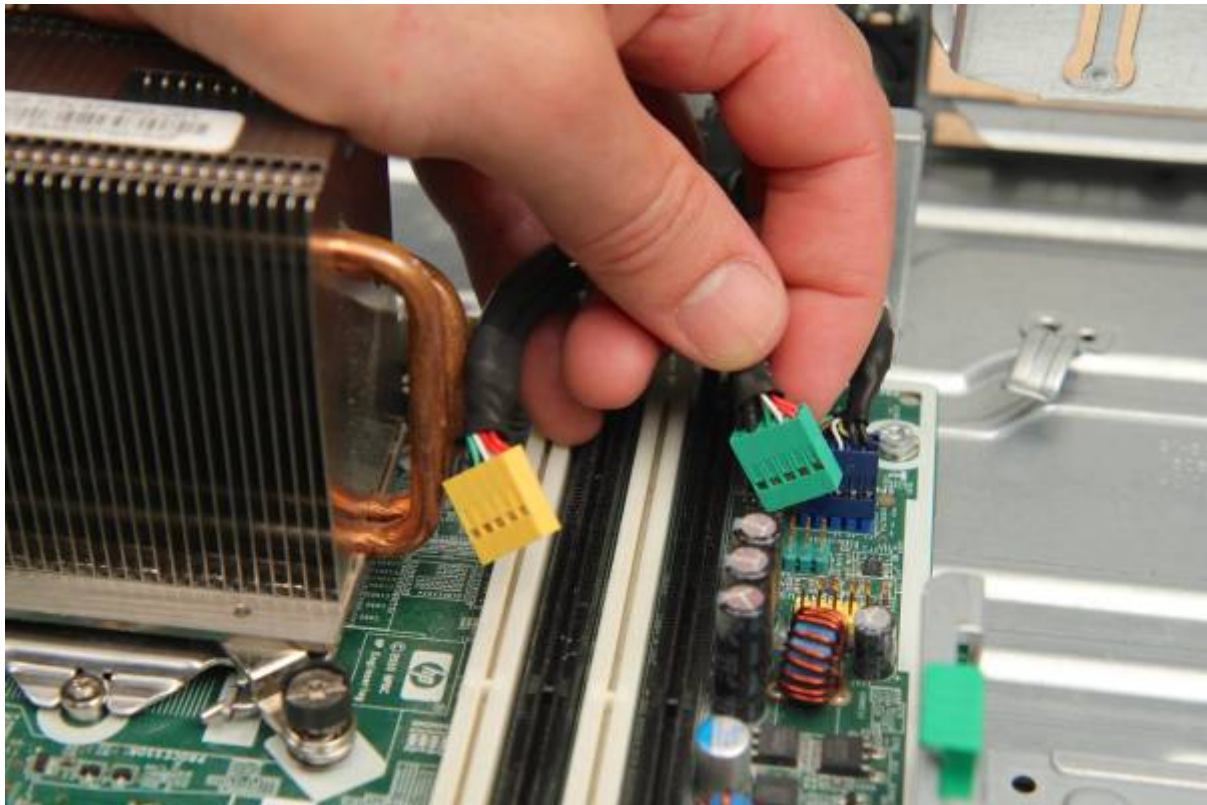


Motherboard-ka/saxanka-kululaynta

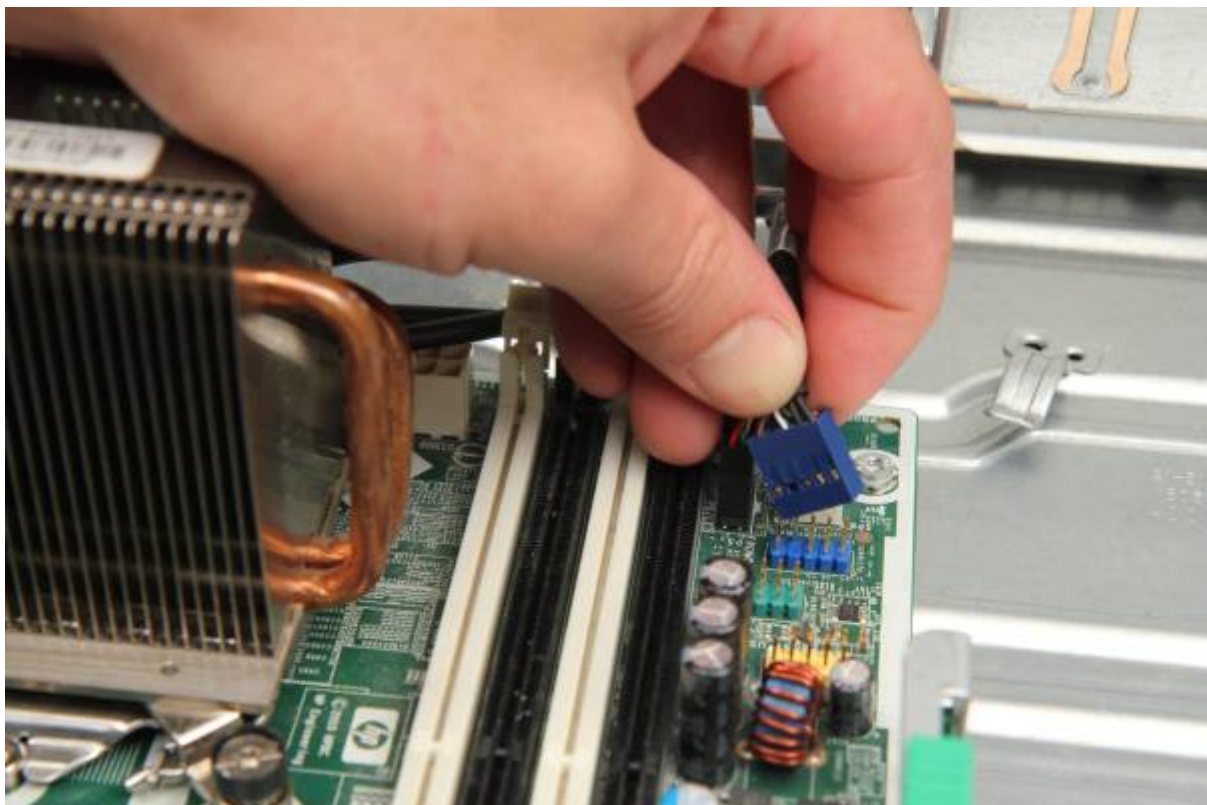
Korontada ka saar xargaha korontada ee kugu xiraya qaybta hore. Waxay ku xirmaan madaxyada ku yaalla motherboard ka (qaybta hoose oo bidixda ah). Marka hore madaxa korontada:



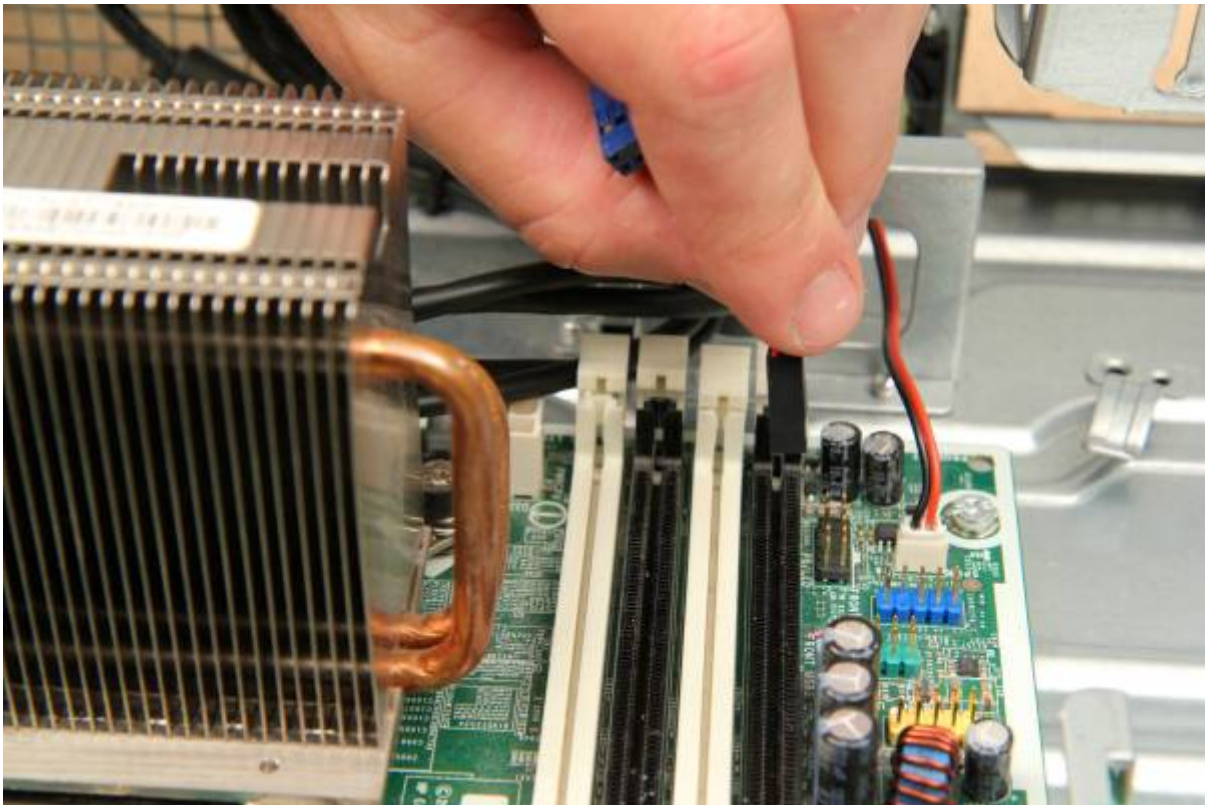
ka dibna madaxa hore ee USB-ga:



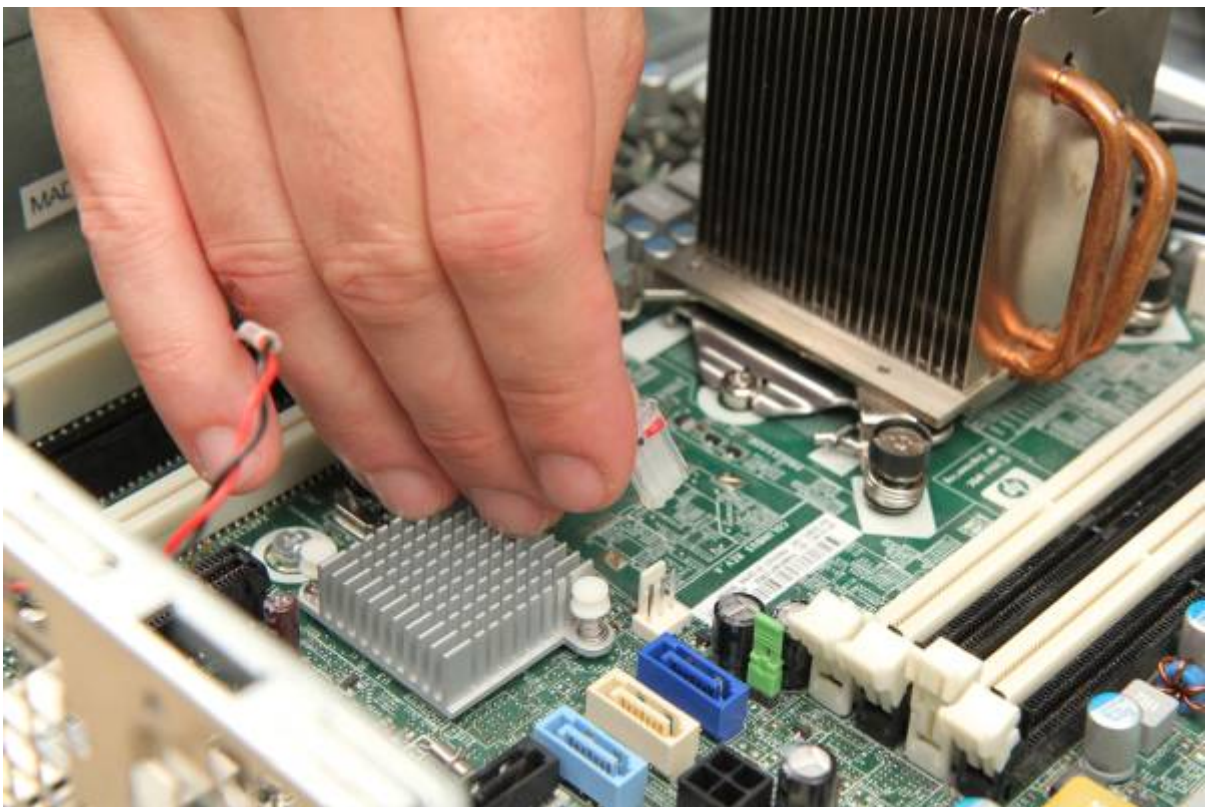
madaxa maqalka ee hore:



madaxa hadalka:



iyo carqaladaynta daarista.



Ka saar afarta bool iyada oo la hubinayo madaxa motherboard ka. U dhaaf afarta bool ee ku wareegsan CPU-ga hadda.

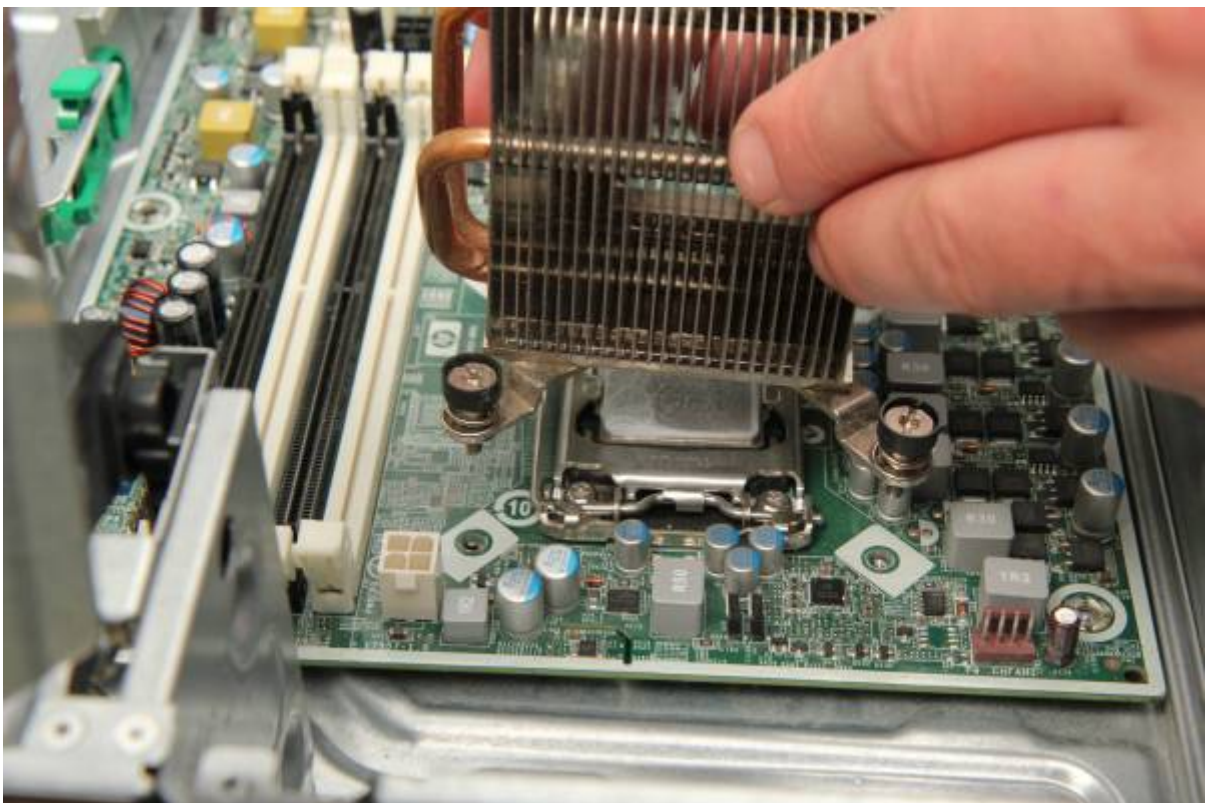


Markaad ka-saarayso kulayliyaha ha taaban aallada dhegdhega leh oo kulayliyaha dushiisa/CPU. Kulaylkaan cajiinta wuxuu wanaajiyaa gudbinta kulaylka ee u dhexeeya aalladahaan.

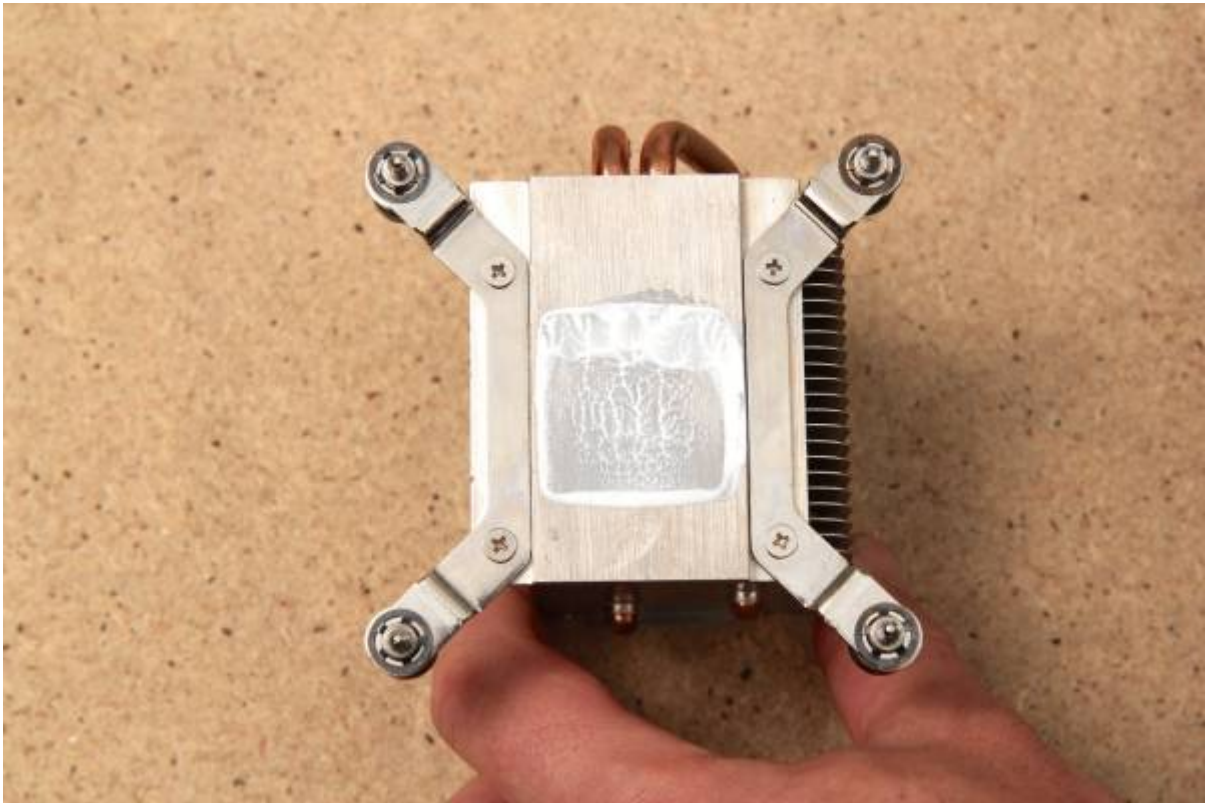
Saxanka kulaylinta waxaa xajiya cadaadiska afar bool. Ka fur boolasha:



Kor uga saar kulayliyaha:

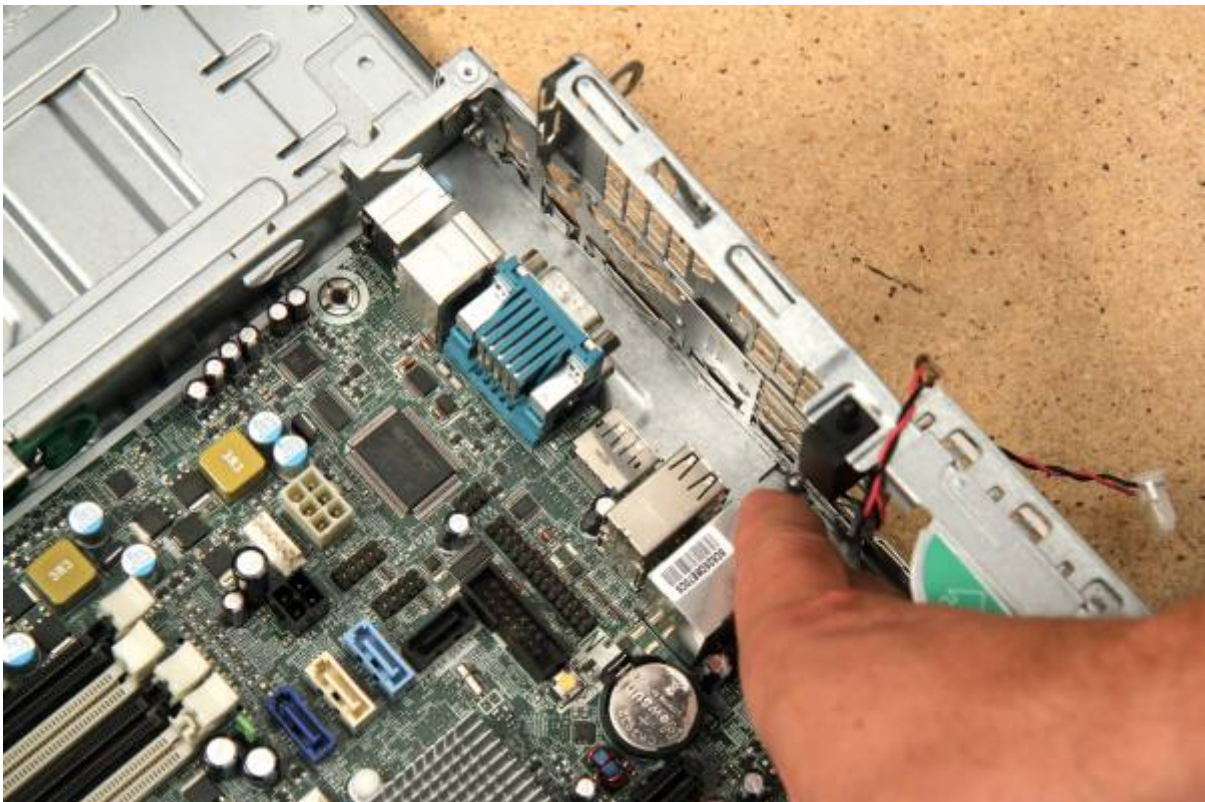


Si taxadar leh u foorari si aad uga fogaato dhuuqida cajiinta.

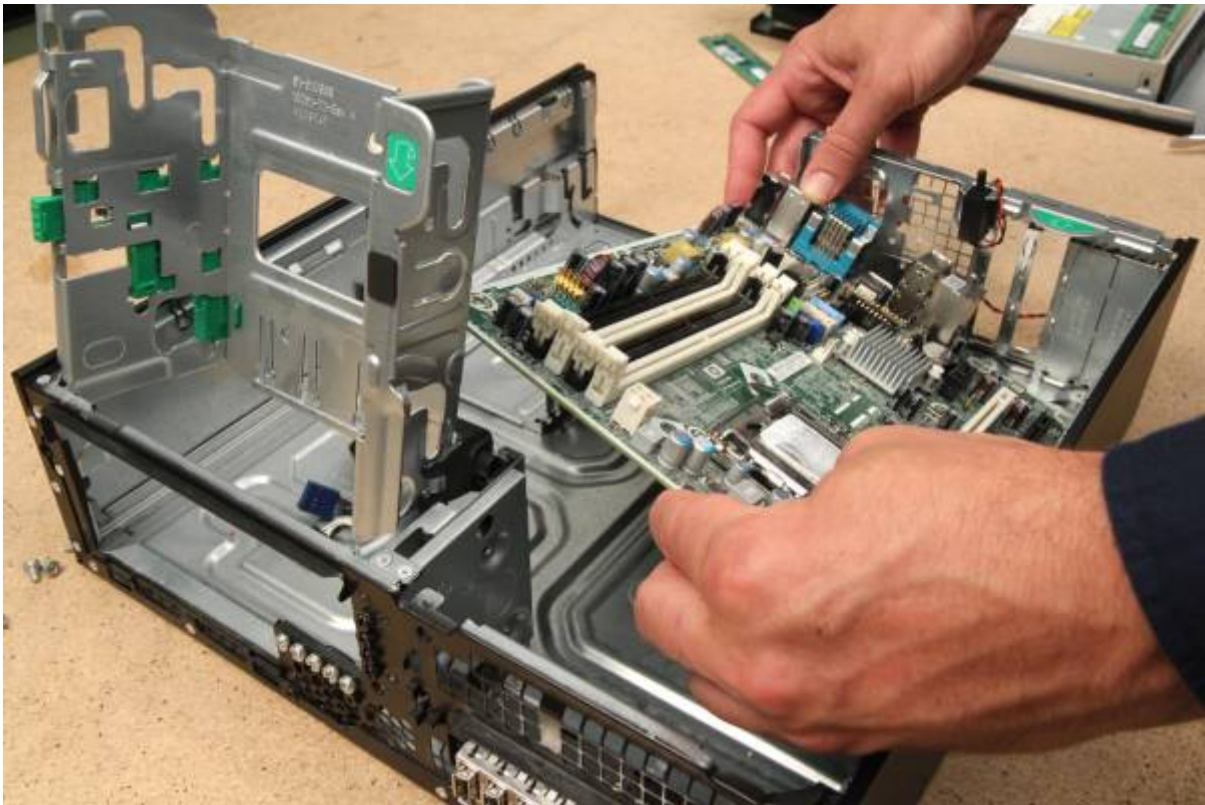


Motherboard-ka waxaa loo saari karaa keliya xagal mucayin ah. Si taxadar leh usii wad.

Ka soo qaad motherboard-ka dhinaca hore, ka dibna horay ugu janjeeri si tartiiba si aad xanibaada uga qaado godadka.



Kor u qaad oo leexi si aad uga banayso boorsada. Dhig meel aan waxba oolin.



Hel astaamaha:

- Isku-xirka PSU-ga
- Isku-xirayaasha qaybta hore
- Isku-xirayaasha USB iyo SATA

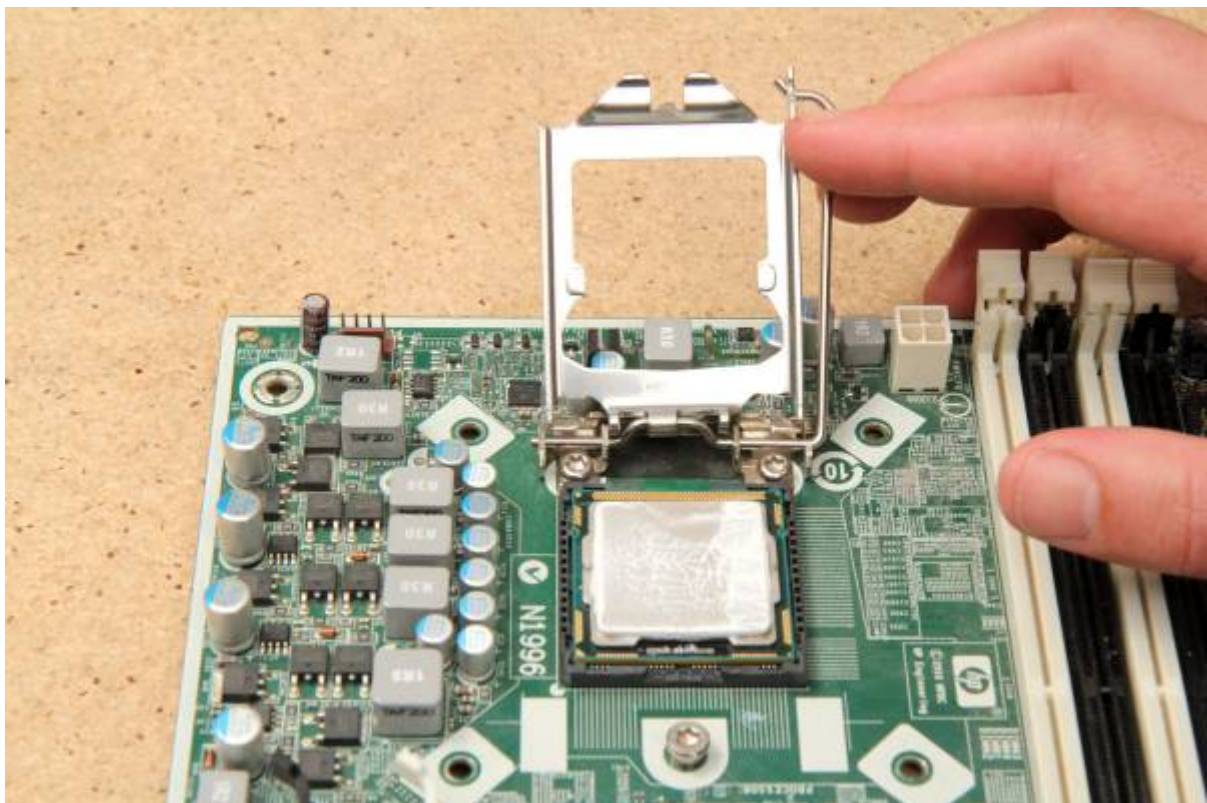
CPU (UNUGA HABAYNTA DHEXE)

CPU-ga iyo socket-ka CPU-ga aad ayay u jilicsan yihiin. Si aad ah uga taxadar.

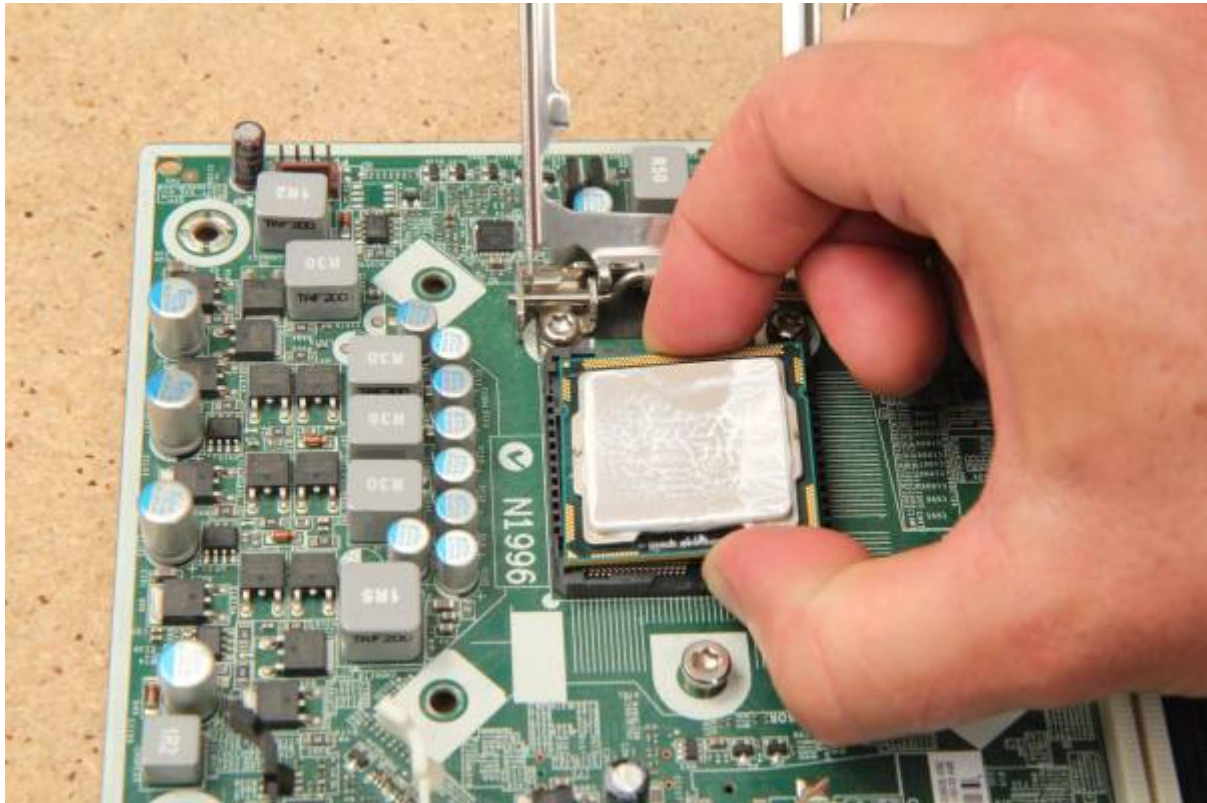
Waxay ku xiran tahay motherboard-ka oo qafis ku jira. Hoos u caddaadi oo u riix kabaalkana dhinaca. Way soo baxaysaa.



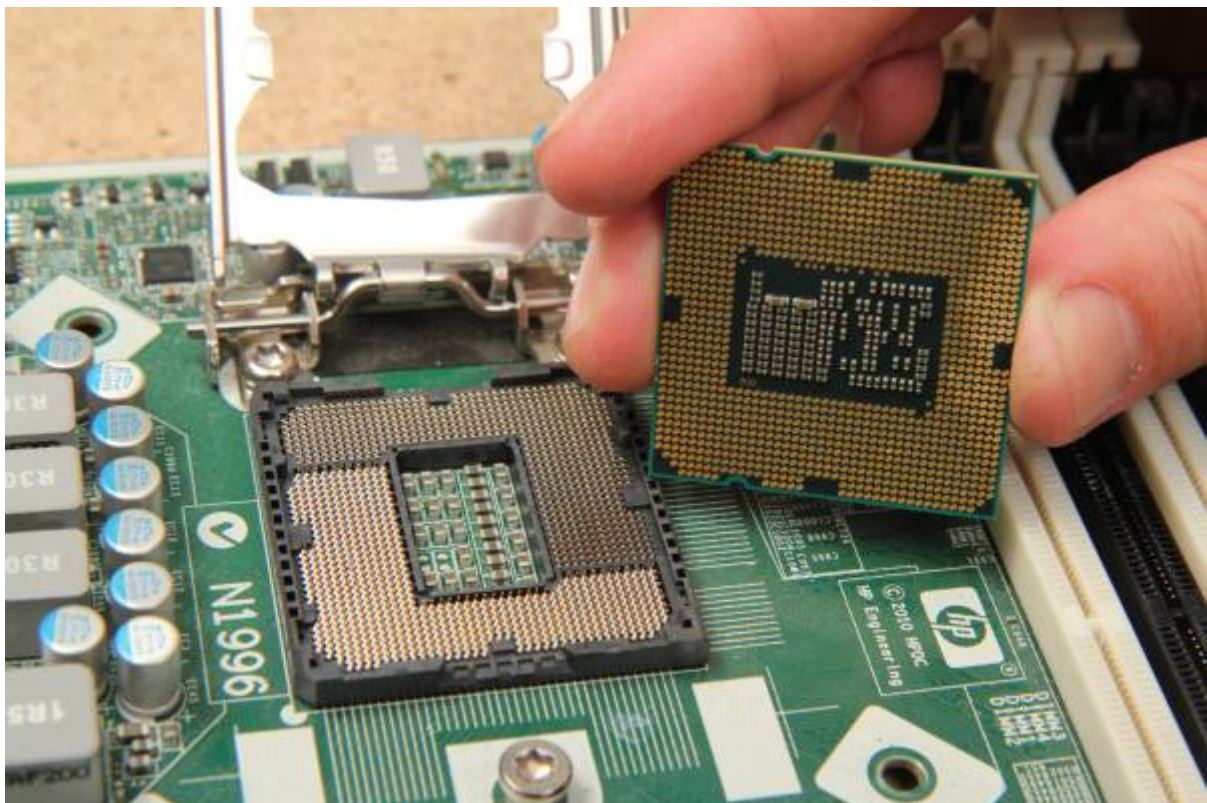
Qaad daboolka:



Laba farood uga saar si taxadaran CPU-ga, geesaska dhegaha yaryar ee qafiska.

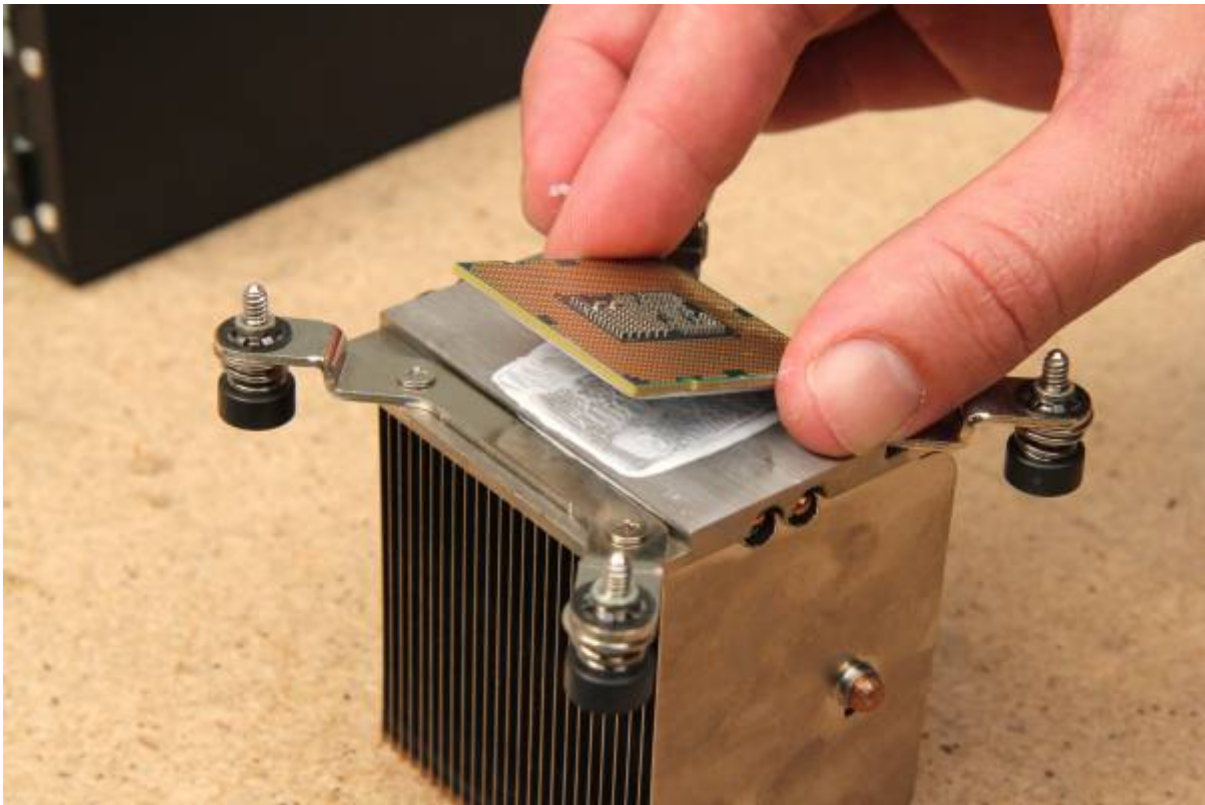


Eeg dhinaca hoose ee CPU-ga - ha taaban qaybaha dahabiga ah.



Boqolaal biin ayaa mid waliba ku xiran yahay wareega dahabiga ah ee salka CPU-ga.

U dhig CPU-ga dhinaca kale kulayliyaahaaga.



Dib-u-rakibida

Aan gadaal-gadaal u raacno isla talaabooyinkii - arag sawirkaaga haddii loo baahan yahay.

Nadiifi CPU-ga/kululaynta

Marka hawada loo furo, cajiinta kululayntu way qalashaa. Iska tirtir cajiinta kulaynta oo isticmaal kan cusub.

Kor uga qaad CPU-ga kulaylinta dhinaca kalena u rog. Si nadiif ah ugu tirtir maradaada ilaa aad si cad ugu akhriyi kartid qoraalka.



Ma akhriyi kartaa:

- Xawaaraha CPU-ga
- Lambarka modelka
- Meesha lagu sameeyey?

U dhig CPU-ga si tartiiba godka iyada oo la isku xejxejiyey - hal dhinac keliya ayay u gashaa!



Ku nadiifi kulaylinta nadiifiyayaasha - ku tirtir xabuub.

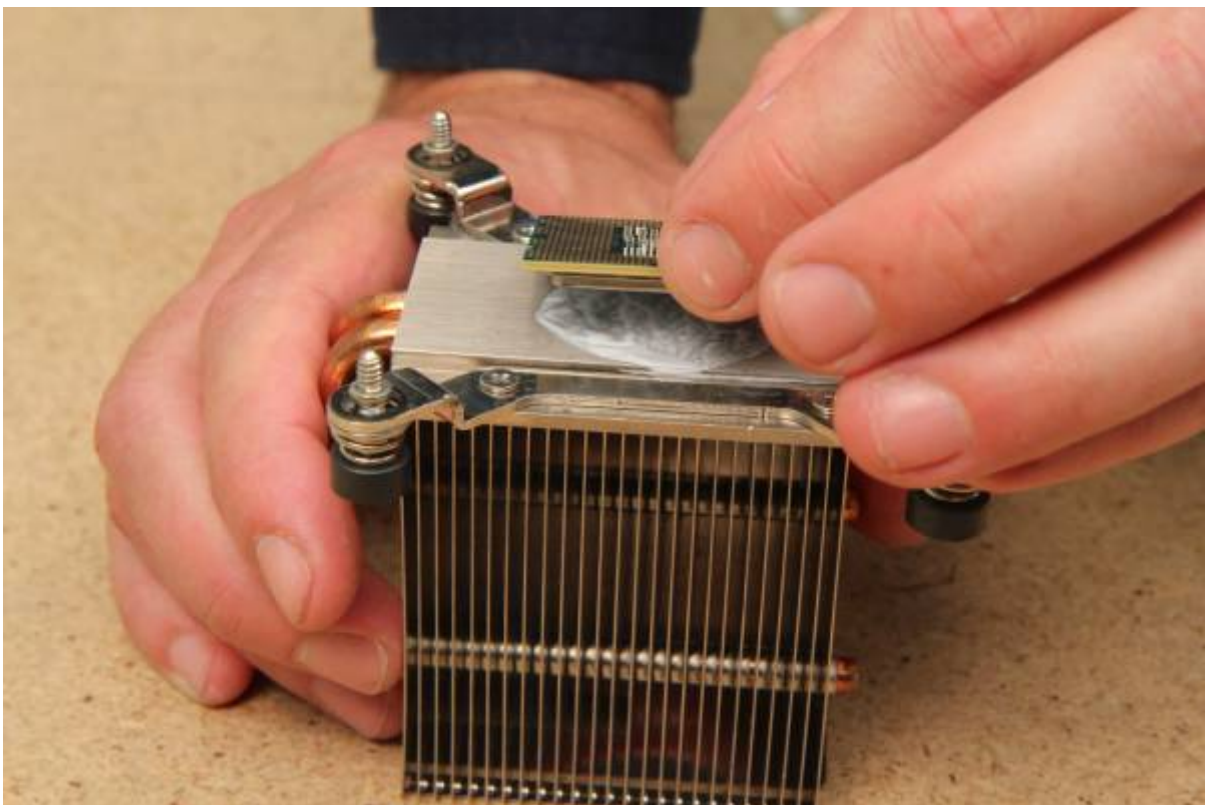


Ku isticmaal cajiinta kulaylka/dib u qaabayn CPU-ga

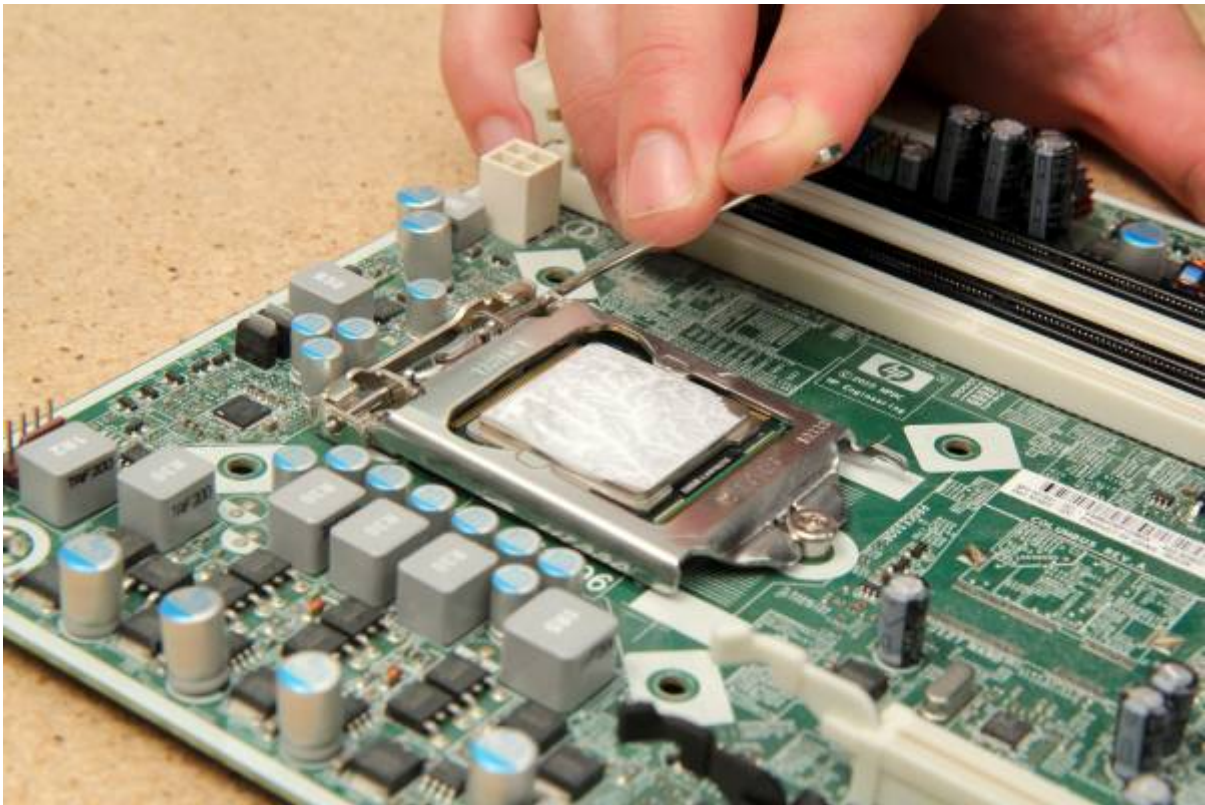
Ka soo saar CPU-ga godka. Tuuji xabuubka bariiska le'eg oo ah cajiin diiran.



Rog oo jilci cajiinta kululaynta ilaa CPU-gu badankiis la daboollo (*lagama maarmaan maaha*)



CPU-ga dib ugu celi sanduukhii ka dibna xir albaabka.



Motherboard-ka (maskaxda kumbuyuutarka)

Khafifi motherboard-ka dibna ugu celi. Leexi, isku xiriiri sockets dambe, ka dibna si tartiiba hoos u dhig.



Ku bedel oo adkay lixda bool (ha isticmaalin godka boolasha).



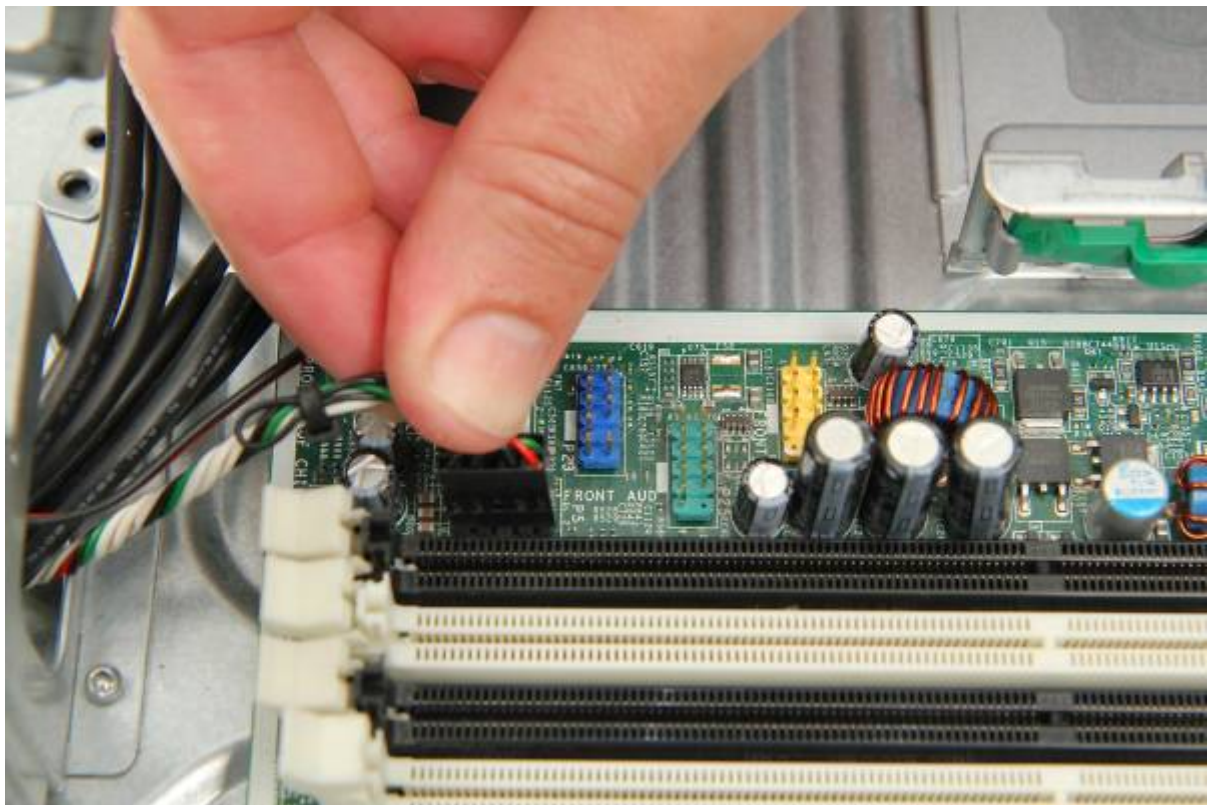
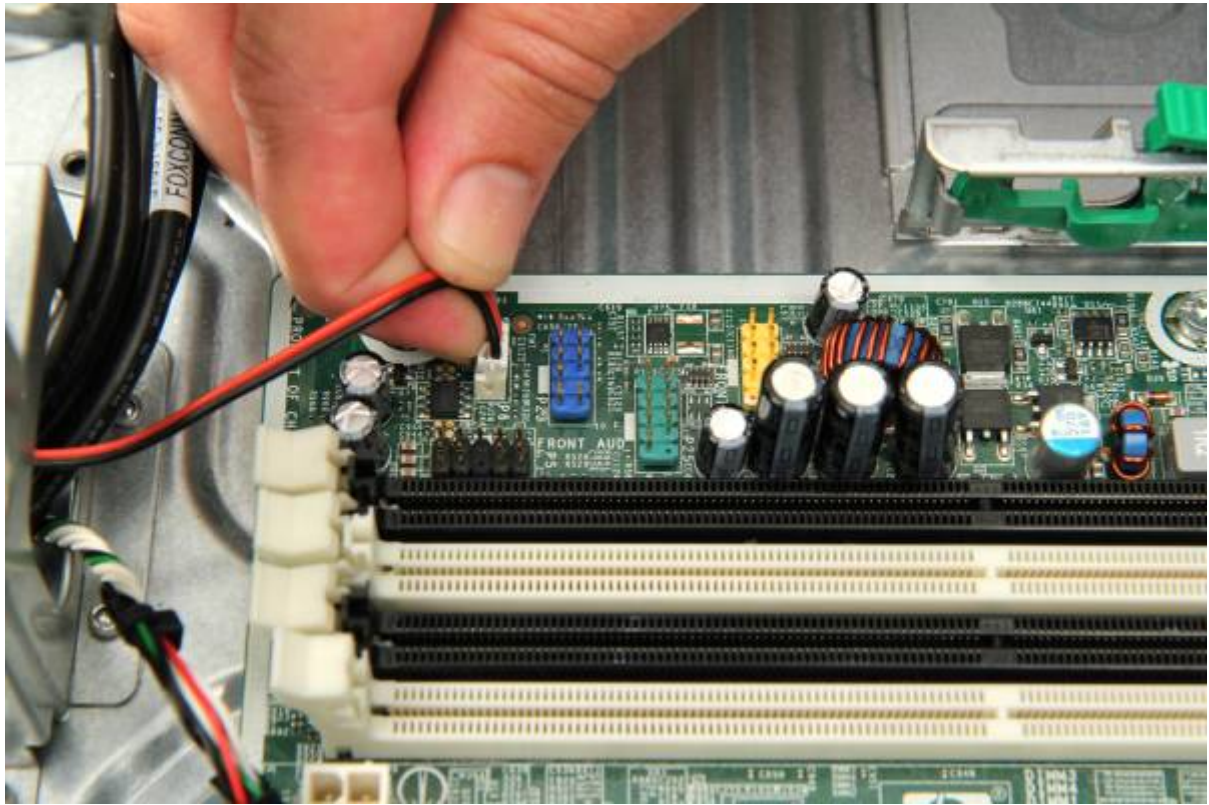
Kulaylinta

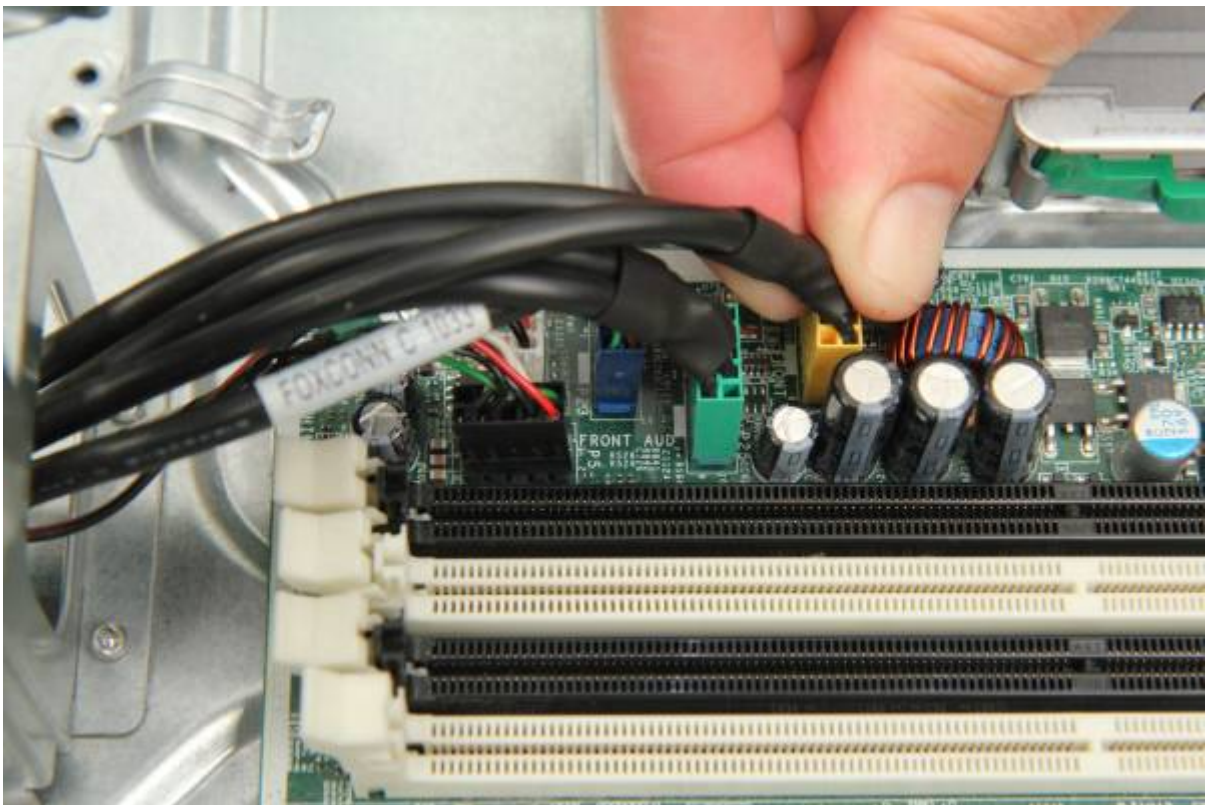
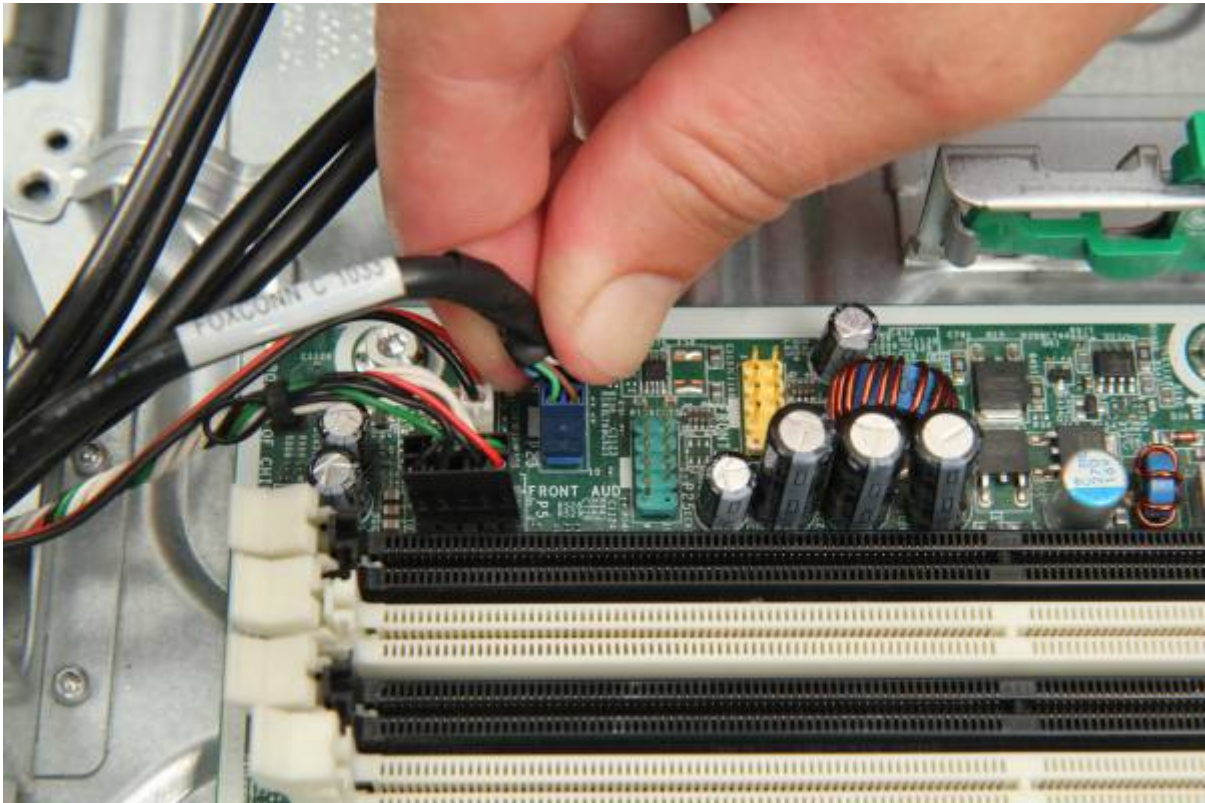
Isdabageli tartiibna hoos ugu dhig motherboard-ka. Bedel boolasha si fiicana u adkay.

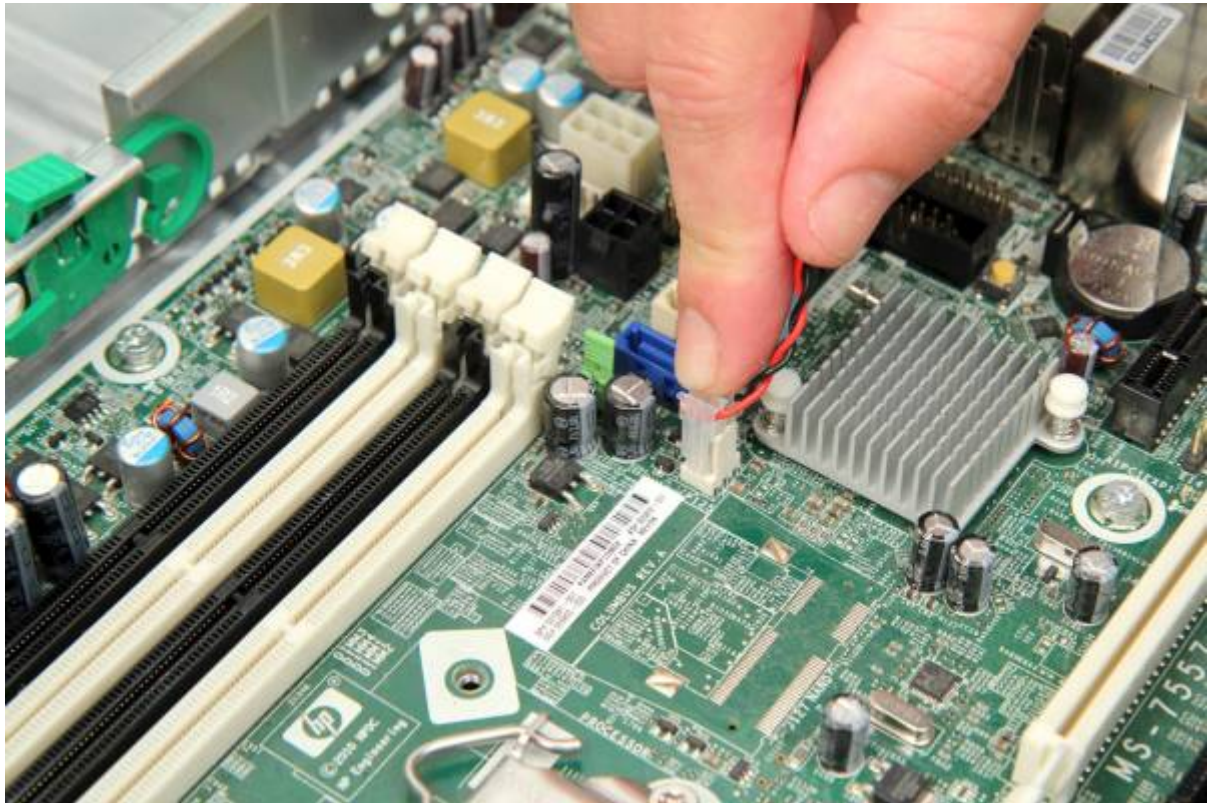


Madaxyada panelka hore

Bedel madaxyada panel-ka hore halmar midkiiba, adoo isku ekaysiinaya midabada.

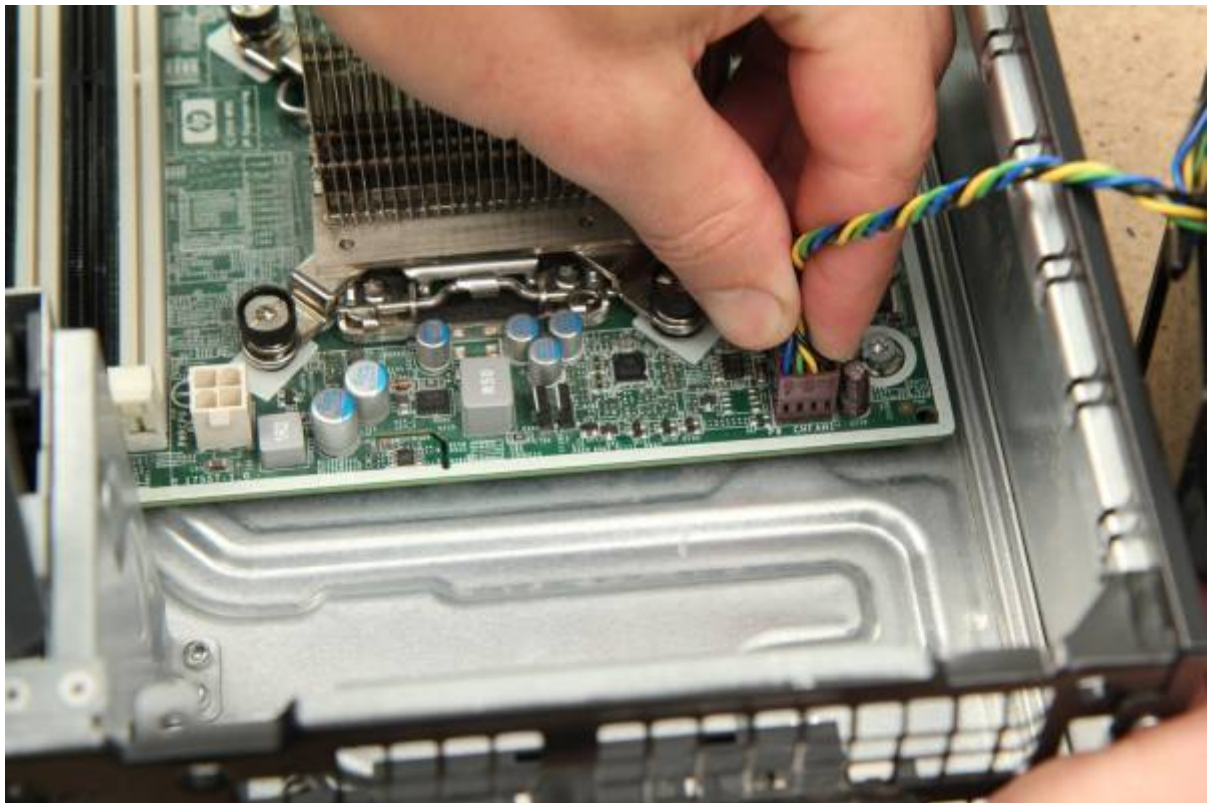






Marawaxad

Dib u xir motherboard kaybalka madaxa:



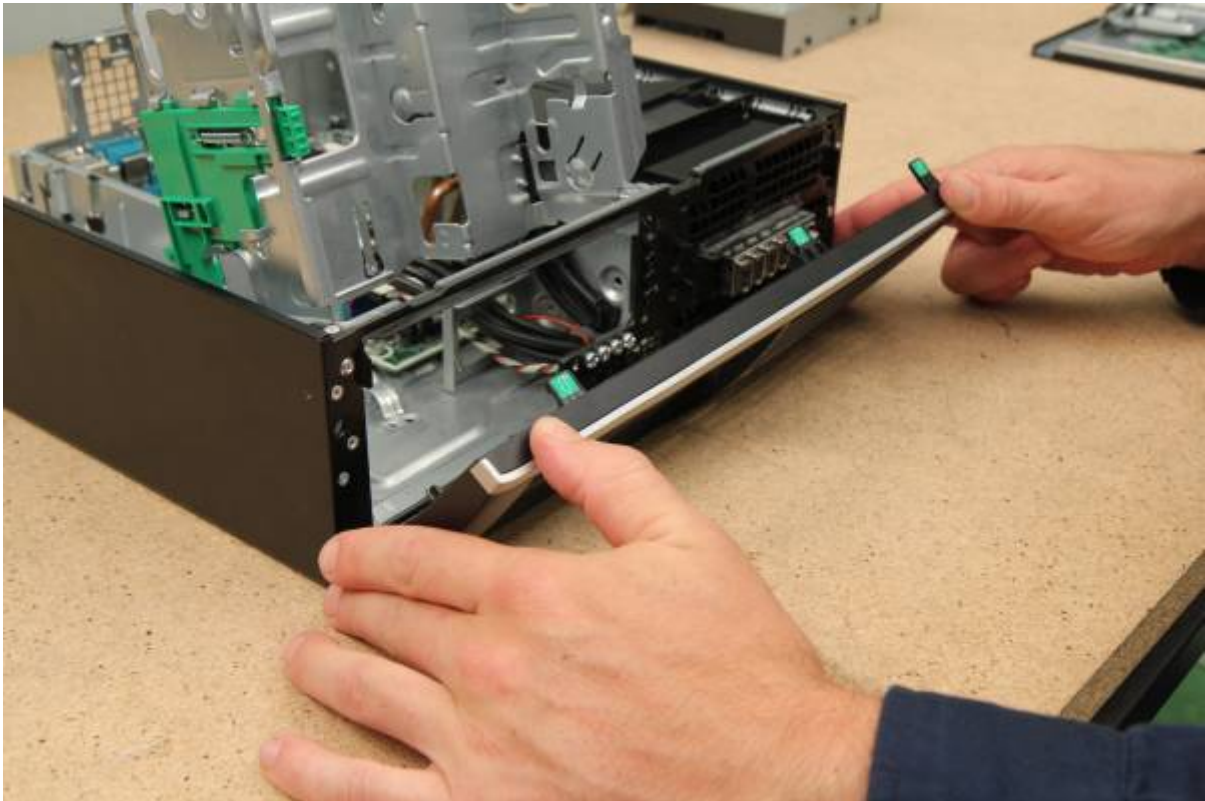
Dib ugu riix faanka meeshiisii:



Bedel hagaha hawada.



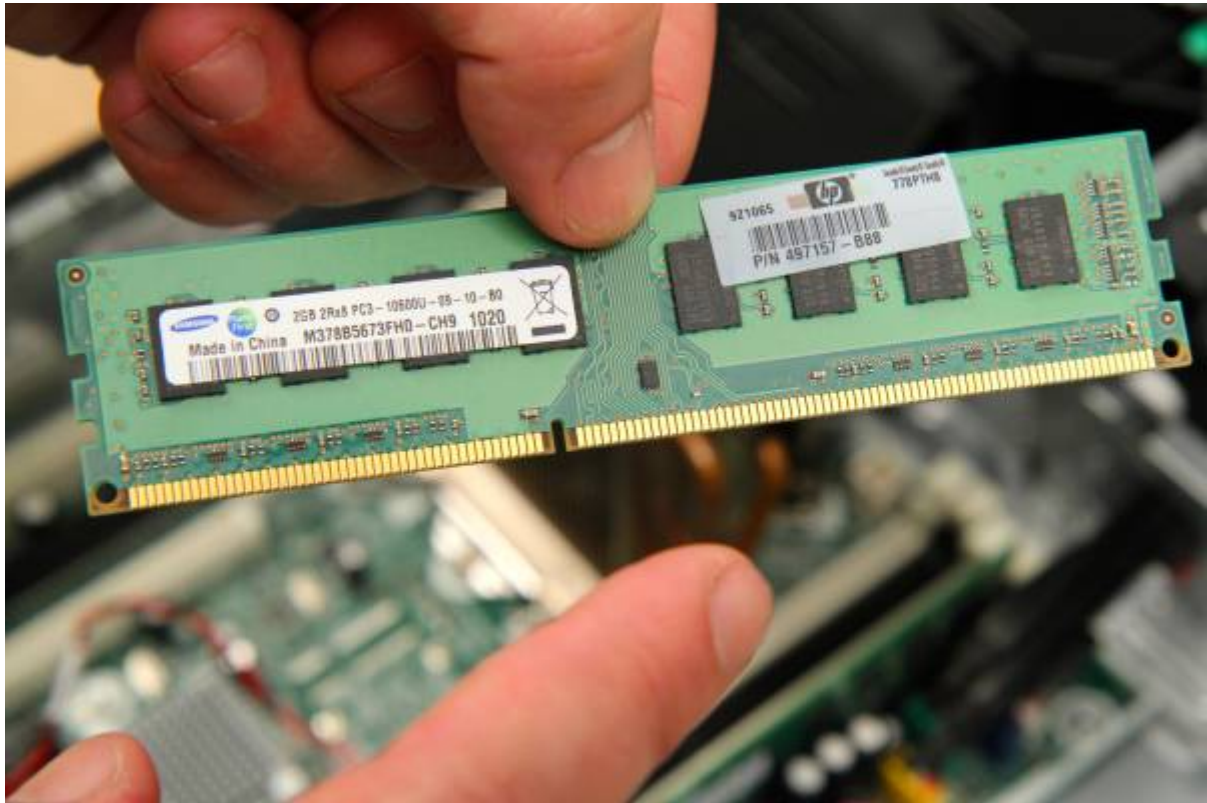
Banalka hore



Rakib RAM-ka

Bedel hal mid markiiba.

Meela jeexan ayaa isdaba joogaya iyaga oo kala durugsan oo ay ku jiraan godadka.



Ugu riix si adag. Godka ayaa qabsanaya si adagna u haynaya. Ku celi raamka labaad.



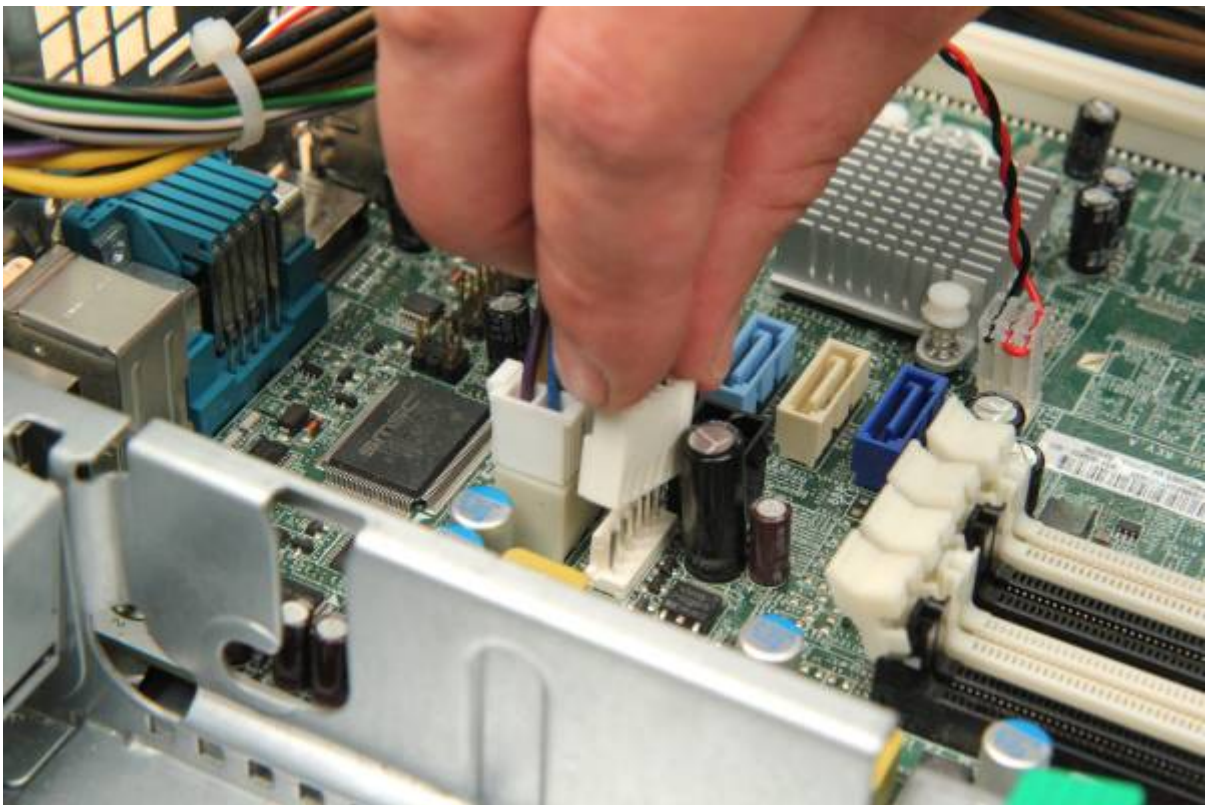
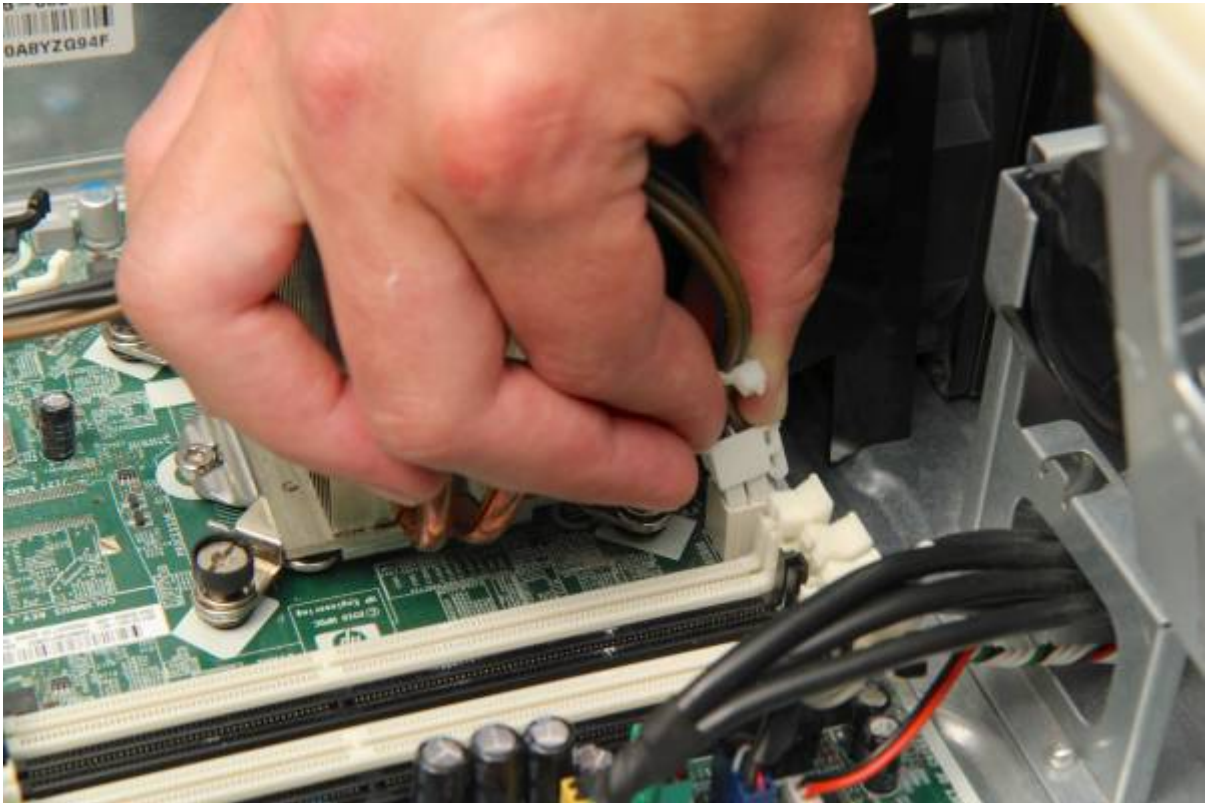
PSU

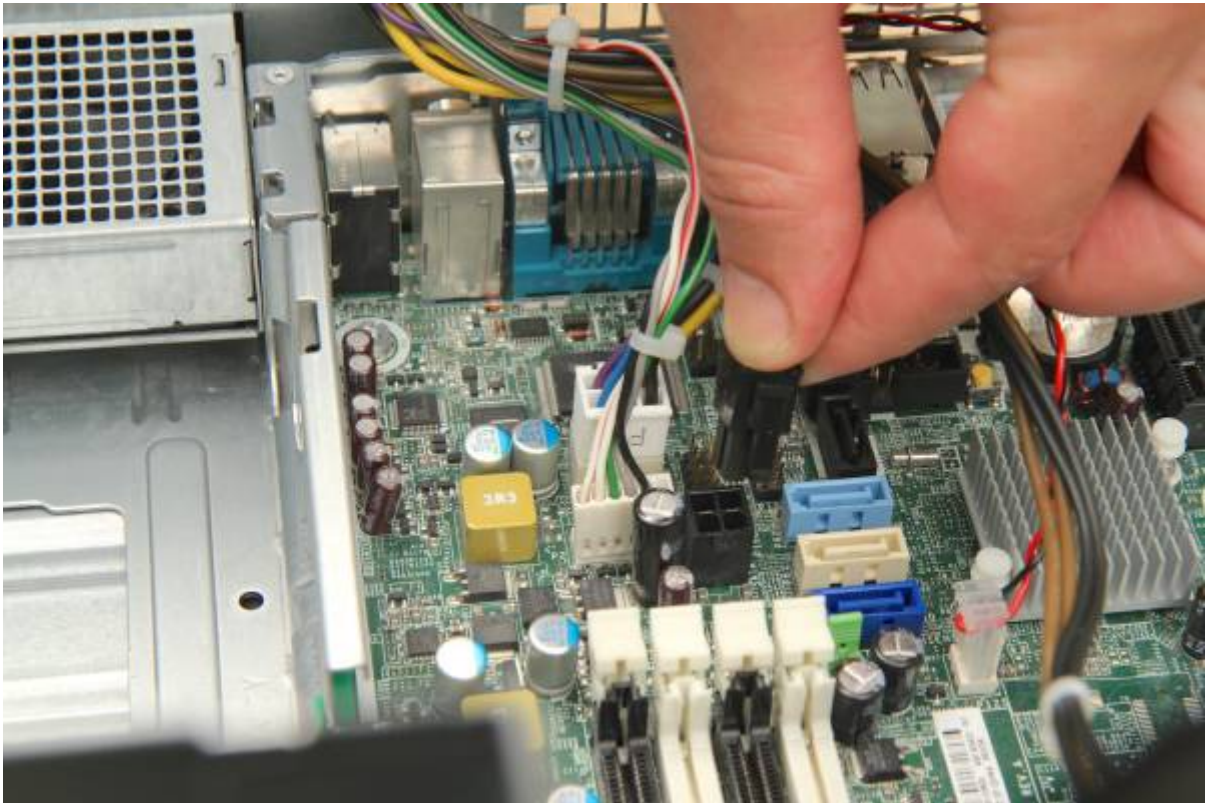
Si taxadaran u bedel PSU-ga.

Boolasha PSU-ga ayaa ku saxmi doona daloolka sanduuqa. Hoos u geli PSU-ga, adigoo raacaya xagasha daloolka booska.



Dib-ugu xir fiilada PSU-ga ku xirmaysa motherboard-ka (hal si ayay ugu xirantaa).





Hard Drive

Ku xir korontada/filada SATA ku xiranta hard drive-ka. Isticmaal ku xiraha leh muuqaalka L ee drive-ka.



Kor u qaad PSU-ga, hard drive-ka ku riix si ay u tagto salka, ka dibna ku riix si aad u xirto.



Geli filada SATA motherboard-ka.



DVD Drive

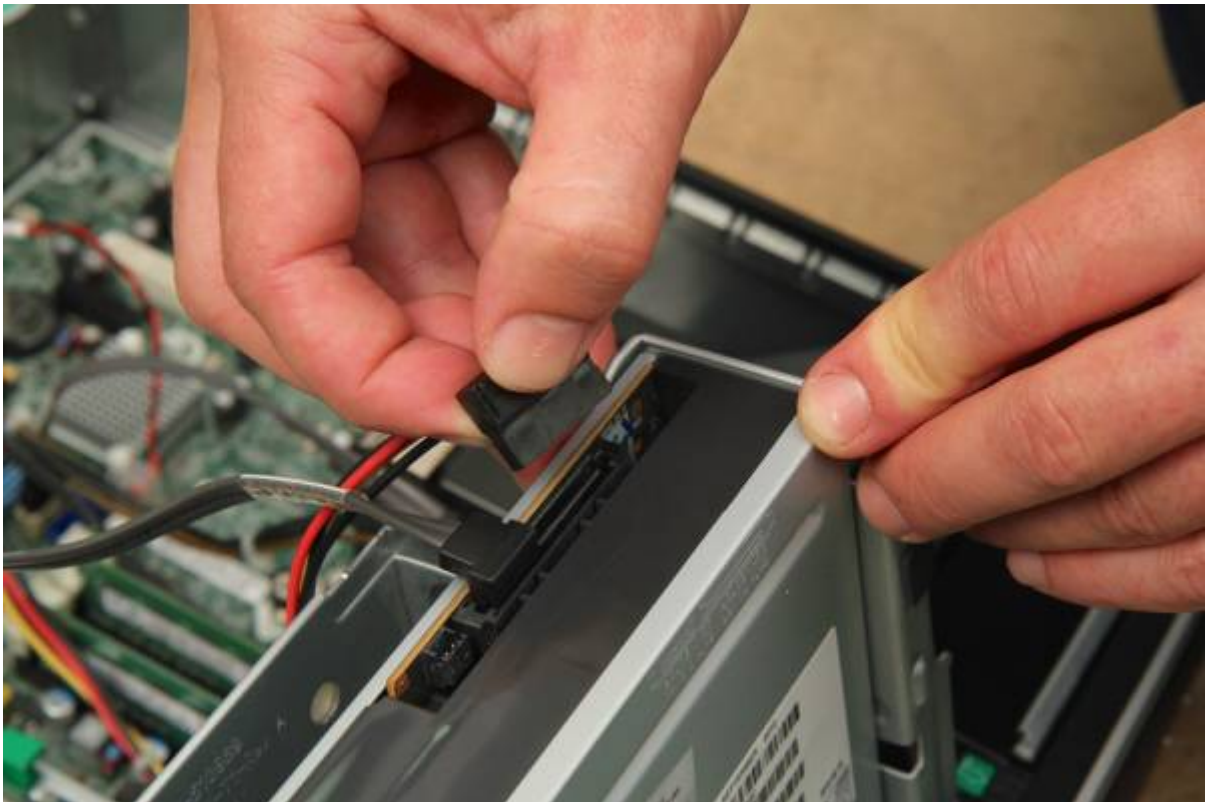
Ku taraarixi DVD-ga si uu u tago salka.



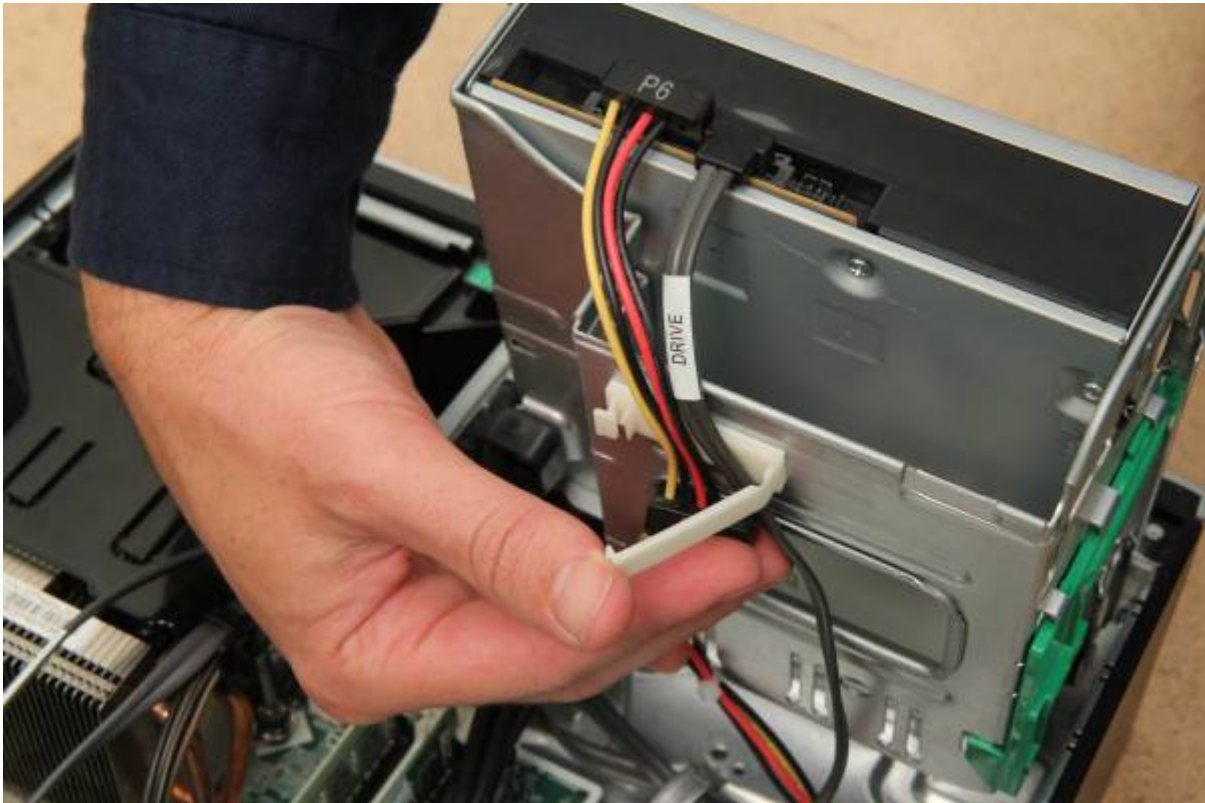
Horay u riix ilaa ay qabsato.



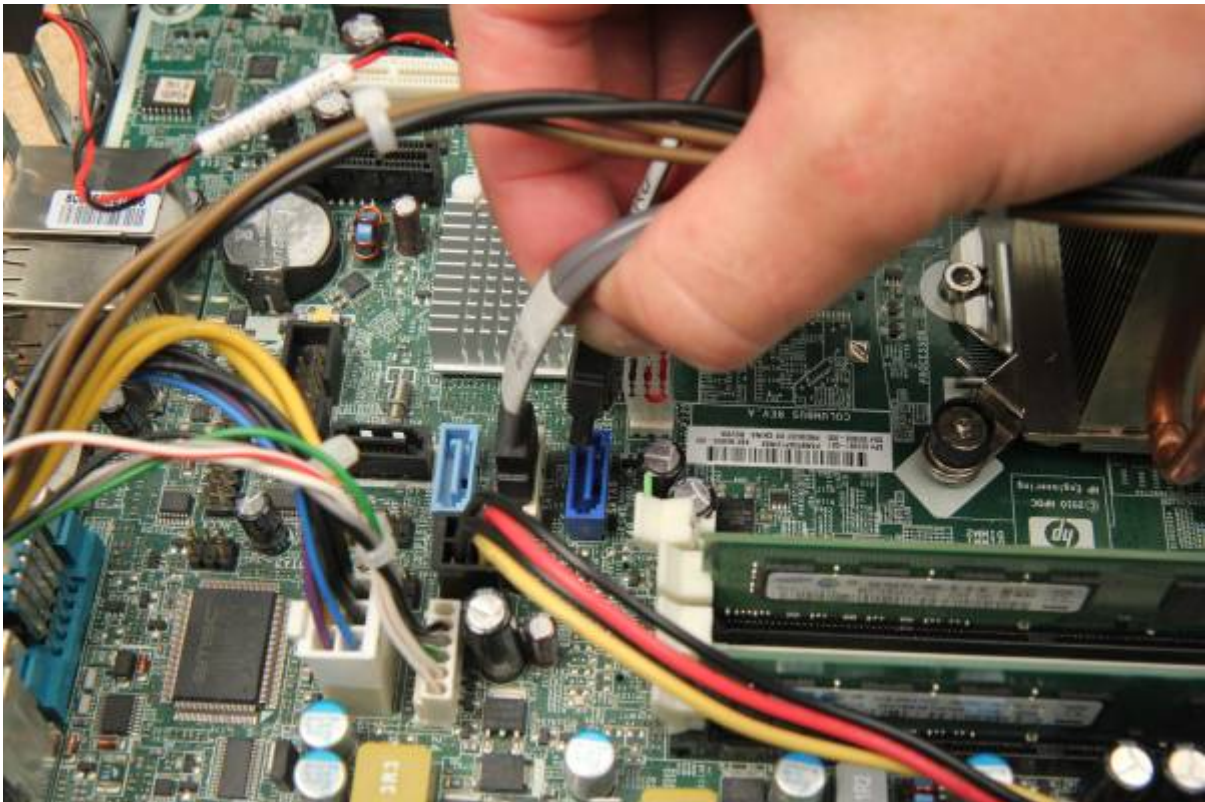
Xir korontada iyo fiilooyinka SATA DVD drive-ka.



Xaqiiji in fiilooyinku ay ka dhexbaxaan meeshay ka qabsanayso filada.



Geli filada SATA motherboard-ka.



Kabaalka drive-ka ku celi meeshiisii.

Xir boorsada

Hubi in fiilooyinka loo marsiiyey si wanaagsan meeshay ka qabsanayso.



Hubi in gacanka DVD drive-ku iyo PSU-gu ay hoos ka lalmadaan.



Xir boorsada. Dhamaystiran!



Hanbalyo!

Ku celi si aad ugu barbarato.

[Workshop 02 - Operating System Install](#)