Arduino

U Rwanda rukomeje gukataza mu iterambere, Ikoranabuhanga rikomeje kwigishwa cyane mumashuri yaba ayisumbuye hamwe n'amashuri yigisha imyuga mugihe gito. Abantu benshi bakomeje kugirira inyoto cyane ikoranabuhanga, aho usanga burumwe aba ashaka kwiga no gukora iryo korana buhanga rirushaho kujya mbere buri munsi.

Umenye.com yazirikanye abanyarwanda bashaka kwiga byinshi ku ikoranabuhanga. Arduino ni kimwe mubikoresho bigezweho mugukora ibintu byinshi ushobora no kureba ukagirango ni ibitangaza. Ibyinshi mubintu tubona biba bikoresheje iri koranabuhanga.

Kwiga irisomo bizagufasha kwiyungura byunshi kuri icyo gikoresho.
Ifoto:

Ayo ni amafoto ya arduino

Intego yiri somo

Iri somo rizagufasha kuba wabasha kugira ikintu wakora wifashishije ikigikoresho Arduino. Tuzagusobanurira kubikewe byose kugirango ubashe kuba wagira igikoresho runaka wakora, tuzagusobanuri uko wakora porogaramu ikoresha iki gikoresho. Tuzagufasha Kuba wakoresha ikigikoresho ukora ikintu icyo aricyo cyose ushaka gukora wifashishije Arduino. Tuzaguha ibitekerezo byibyo wakorawifashishije iki gikoresho.

Kugiraango ubashe kungukirwa naya masomo turagushishikariza kugura icyo gikoresho. Kiboneka mu rwanda kumafaranga makeya agera 15,000frw, ushobora kugitumiza kumasoko yohanze ho bikaba bihendutse cyane kigura 5$(1$=860).

Ushobora kutwandikira tukagufasha kubona icyo gikoresho kumafaranga makeya.

Amasomo yibanze kuri arduino

Arduino Ni iki?

Arduino cyangwa Micro-controller ni igikoresho gikora nka mudasobwa ariko ntoya ifite ibikenewe nka mudasobwa ariko yo iguha uburyo bwokwishyiriramo porogaramu wikoreye iyikoresha, ifite aho kubika iyo porogaramu ikagira aho bashyira ibikoresho bidufasha kwinjiza ibintu muri arduino bitwe nicyo dushaka kubikoresha hamwe naho gushyira ibidufasha kubona ibyo dushaka gukora(Input and Output port).

Kimwe na mudasobwa, micro-controller ifite ubwonko(processor) hamwe naho gushyira ibikoresho ushobora kugrna ikihakorerwa ukurikije icyo ushaka gukora ikanagira ububiko bugufasha kubika ya porogaragaramu uba wakoze.

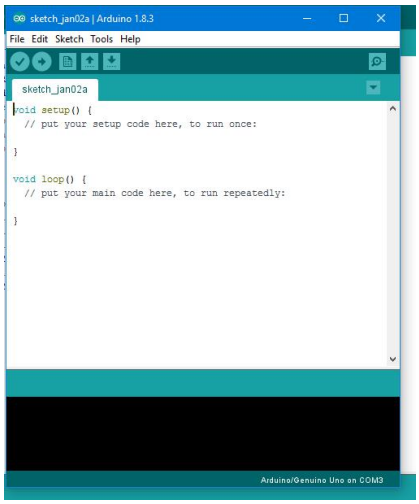
Ifoto:

Habaho amoko menshi ya Micro-controller(Arduino), Ariko muri aya masomo yacu tuzakoresha cyane Arduino Uno.

Porogaramu ya mudasobwa

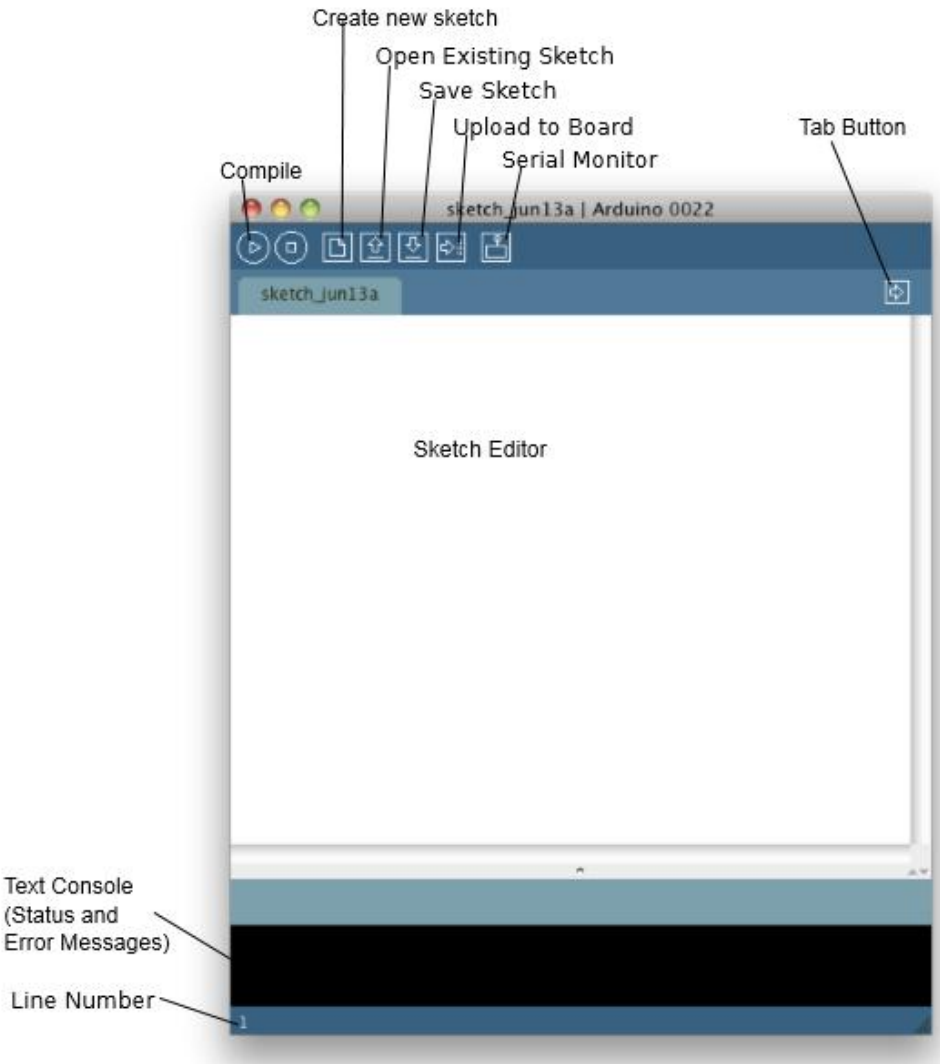
Kugirango ukoreshe iyi mudasobwa ntoya wikoreye bigusaba kubanza ugakora porogaramu izayikoresha; iyo porogaramu uyubaka ukoresheje mudasobwa(computer) isanzwe tuzi. Ushyiramo application yagenewe gukora porogaramu zijya muri Arduino. Hari uburyo bubiri bwokuyishyira muri mudasobwa yawe. Ubwambere aribwo bworoshye kandi tugiye kubabwira, Ushaka iyo application uyisabye incuti yawe wayikuye kuri murandasi(Internet) akayiguha ukayensitala nawe muri mudasobwa yawe. Waba ufite murandasi muri mudasobwa yawe jya kuri urwo rubuga uyi kureho ni ubuntu: http://arduino.cc/en/Main/Software Niwarangiza kuyiteresharizа(download) uyensitele muri mudasobwa yawe.

Numara kuyeshyiramo uyi fungure dore uko ifunguka:



Arduino IDE

Kugirango iyo porogaramu uyikoreshe neza ni ibyingenziko yugusobanurira bimwe mubintu uyibonaho.



Twifashishije iyo foto iri mucyongereza tugiye kugusobanurira uko ikora.

Compile(Aho barebere niba wanditse neza porogaramu; Ntakosa): Aha bahifashisha bashaka kurebako niba porogaramu wanditse ntamakosa wakoze

Create new Sketch(Aho bakorera indi porogaramu shyashya): Aha bahanyura iyo ushaka kwandika porogaramu shyashya.

Open Existing Sketch(Aho unyura kugirango ufungure imwe muri porogaramu wakoze): Aha uhanyura iyo ushaka gufungura porogaramu uherutse gukora, wabitse muri mudasobwa.

Save Sketch(Aho banyura bashaka kubika porogaramu umaze gukora): Iyo uhanze porogaramu shya uba usabwa kuyibika kugirango utayibura; uba ugomba kuyibika muri mudasobwa yawe uciye ahangaha.

Upload to Board(Shyira porogaramu yawe muri Arduino): Mugihe umaze gukora neza porogaramu yawe kandi wamaze kureba niba ntamakosa arimo kandi wanayibitse hakurikiraho kuyishyira muri Micro-controller(Arduino) yawe uca ahangaha. Bigusabako ushaka umugozi wa USB ukawifashisha uhuza mudasobwa yawe na Arduino yawe hanyuma ugakanda kuri “shyira porogaramu muri Arduino(Upload to Board).”

Tab Button(Aha bahifashisha ushaka kugira ibindi uhindura kuri Arduino IDE yawe)

Sketch Editor(Andika porogaramu yawe): aha ni aho bandikira porogaramu ushaka gukora; twakumenyeshako hari ibice bitatu ugomba gushyira muri porogaramu yawe. Tuzabigusobanurira neza Igihe cyokwandika porogaramu kigeze.

Mu isomo rya kabiri tuzatangira tukwereka uko wakora porogaramu yawe igufasha gukoresha itara.

Kora share hanyuma udusigire igitekerezo cyawe cyangwa inyunganizi,