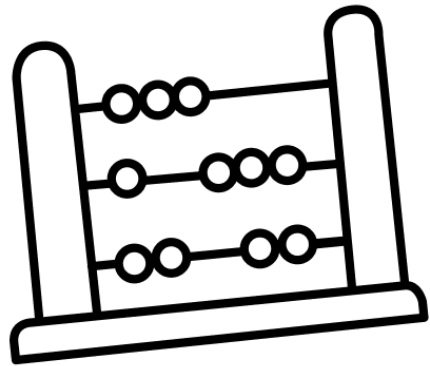


Natijoooyin aan si isku mid ah u dhicin

Maths

Cutub: Itimaalka (Probability): natijoooyinka suurtagalka ah



Natiijo

Waxaan sheegi karaa marka natiijooyinku aanay si isku mid ah u dhicin.

Erayada muhiimka ah

Tijaabo waa imtixaan go'an oo horay loo qeexay.

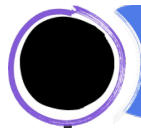
Natiijo waa natijada tijaabo.

Meel saami ah (sample space) waa dhammaan natijoooyinka suurtagalka ah ee tijaabo. Jaantuska meel saami ah waa hab habaysan oo lagu soo saaro meel saami ah.

Dhacdo (event) waa qayb ka mid ah meel saami ah. Waxay noqon kartaa natiijo gaar ah ama natiijooyin dhici kara oo ka yimaada tijaabo.

Qaabka casharka

Natiijooyin aan si isku mid ah u dhicin



Aqoonsashada natijada ay u badan tahay inay dhacdo

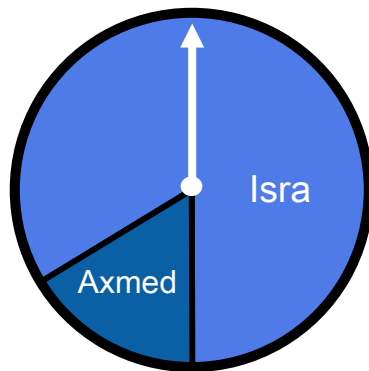


Garashada natiijooyinka aan si isku mid ah u dhicin ee macnaha guud

Axmed iyo Isra waxay ciyaarayaan ciyaar ku lug leh wareejinta wareegga hoose si loo go'aamiyo cidda horay u soconaysa.

Maxaa sabab u noqon kara in Axmed uusan ku faraxsanayn wareegga?

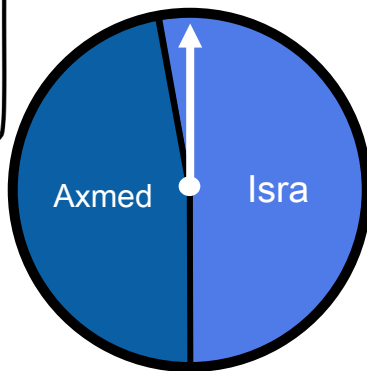
Wareeggu wuxuu u badan yahay inuu ku dhaco magacayga Isra, ma aha magacayga.



Isra waxay hagaajisaa wareegga waxayna tuisaa Axmed.

Ma aha. Natiiyooyinku wali ma aha kuwa si isku mid ah u dhici kara.

Wali waxay u badan tahay inay ku soo degto magacaaga aniga.

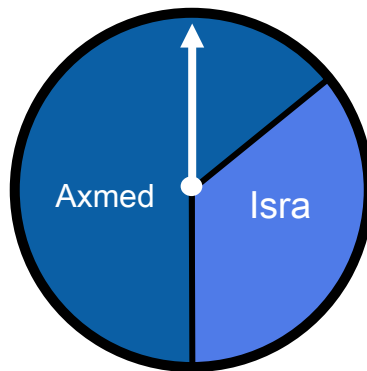


Ka warran wareejiyahan (spinner) kan?
Miyuu hadda u egyahay mid caddaalad ah labadeenna?



Axmed wuxuu hagaajiyaa wareejiyaha (spinner) oo wuxuu tusiya Isra.

Ka warran kan? Waan jeclahay
wareejiyahan (spinner)!

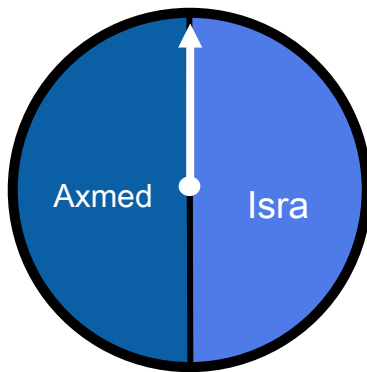


Laakiin wali waa caddaalad-darro.
Wareejiyaha (spinner) waxay u badan
tahay inuu ku joogsado magacaaga
hadda.



Waxay ku heshiiyaan kan sida wareejiyahooda (spinner) ugu dambeeya.

Tani waxay u egtahay mid
caddaalad ah labadeenna.



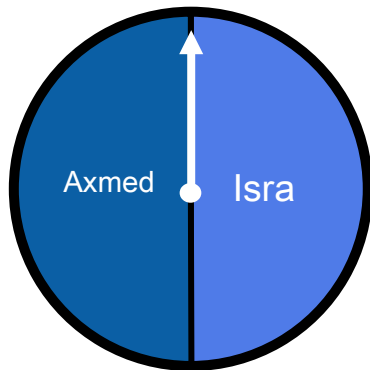
Labada natijjo (outcomes) hadda
waxay u egyihiin inay dhacaan si
isku mid ah.



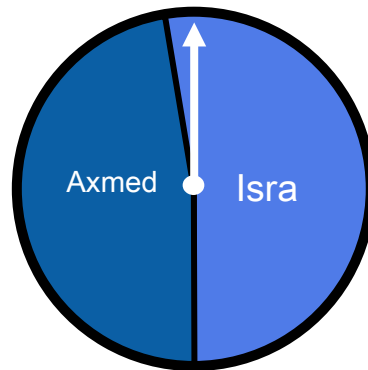
Aqoonsashada natiijada (outcome) ay u badan tahay inay dhacdo

U-badnaansho (Likelihood) waxay qeexdaa fursadda (chance) in dhacdo gaar ah ay dhacdo.

Wareejiyaha (spinner) midigta, qaybaha 'Axmed' iyo 'Isra' isku cabbir ma aha. Sidaa darteed, wareejiyaha (spinner) waxay u badan tahay inuu ku joogsado magaca Isra marka loo eego Axmed.



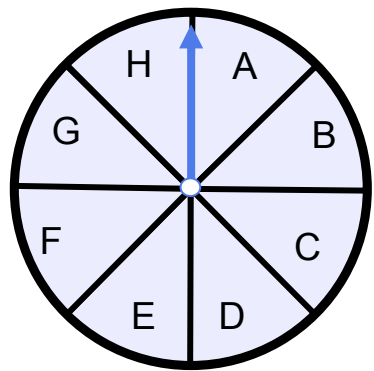
natiijooyin (outcomes) isku mid ah oo u badan



hal natiijo ayaa u badan inay dhacdo marka loo eego midka kale

Dhacdo (Event) waa qayb ka mid ah meel shaybaarka (sample space). Waxay noqon kartaa natiiyo gaar ah ama natiiyooyin ka dhici kara tijaabo (trial).

Tusaale: Yacquub wuxuu wareejin doonaa wareegga hal mar.



tijaabo: hal wareeg oo wareegga (spinner)



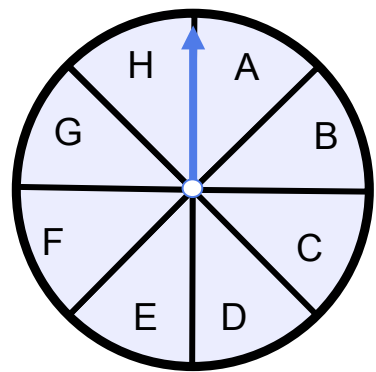
meel shaybaarka (sample space)

Mid kasta oo ka mid ah
natiijooyinkan waxay u dhacaan
si isku mid ah.

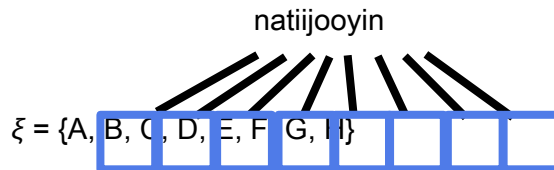


Dhacdo (Event) waa qayb ka mid ah meel shaybaarka (sample space). Waxay noqon kartaa natiijo gaar ah ama natiijooyin ka dhici kara tijaabo (trial).

Tusaale: Yacquub wuxuu wareejin doonaa wareegga hal mar.



tijaabo: hal wareeg oo wareegga (spinner)



meel shaybaarka (sample space)

Ma waxay u badan tahay in wareeggu istaago shaqal (vowel) ama shibbane (consonant)?

**dhacdooyin
(events)**

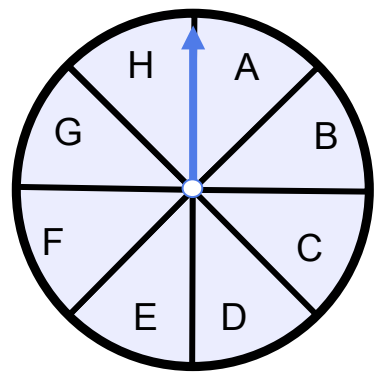
shaqallo = $\{A, E\}$

shibbanayaal = $\{B, C, D, F, G, H\}$



Dhacdo (Event) waa qayb ka mid ah meel shaybaarka (sample space). Waxay noqon kartaa natiijo gaar ah ama natiijooyin ka dhici kara tijaabo (trial).

Tusaale: Yacquub wuxuu ku wareejin doonaa wareegga (spinner) hal mar.



tijaabo: hal wareeg oo wareegga (spinner)

natiijooyin

$\xi = \{A, B, C, D, E, F, G, H\}$

meel shaybaarka (sample space)

Wareeggu (spinner) wuxuu u badan yahay inuu ku soo degto shibbane (consonant) halkii shaqal (vowel).

**dhacdooyin
(events)**

shaqallada (vowels) = $\{A, E\}$

shibbanayaasha (consonants) = $\{B, C, D, F, G, H\}$

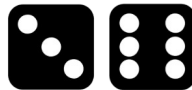


Axmed iyo Suad waxay isku dayayaan inay go'aamiyaan cidda helaya buskudka ugu dambeeya ee dhalada ku jira.

Waxay go'aansadeen inay duudduubaan (roll) hal dice (six-sided) oo caadi ah si loo go'aamiyo cidda helaya.

$$\xi = \{Axmed, Suad\}$$

Haddii aan duudduubno (roll) tiro ka mid ah tirooyinka 3 (multiple of 3) markaas adigu waxaad heli kartaa buskudka. Haddii aysan ahayn tiro ka mid ah tirooyinka 3 (multiple of 3) markaas anigu waan heli doonaa.



Yaa u badan inuu helo buskudka?

Axmed

Tiro (counter) ayaa si aan kala sooc lahayn (random) looga xushay bacda (bag) oo xarafkeeda (letter) waa la qoraa. Tirooyinku (counters) waa isku cabbir (equal size). Sheegashada (statement) kee baa run ah?

a

Labada natiijo (outcomes) waxay u dhigmaan (equally likely) inay dhacaan.

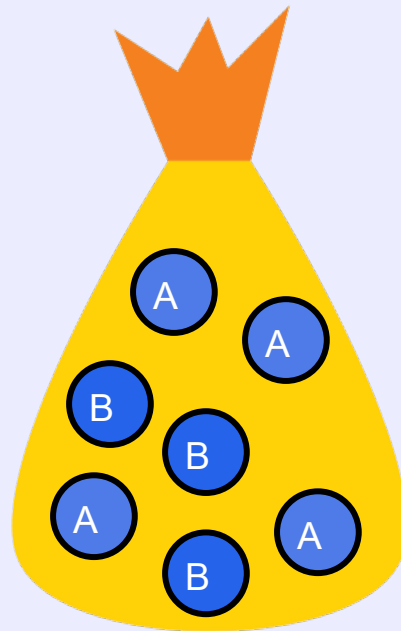
b

Xarafka A (letter A) ayaa u badan in la doorto (picked) marka loo eego xarafka B (letter B).

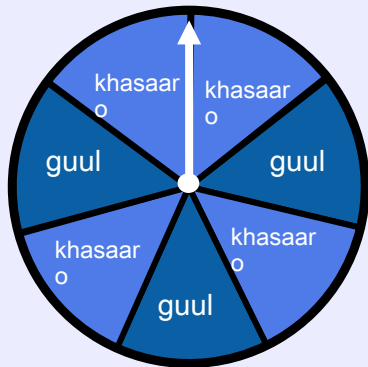


c

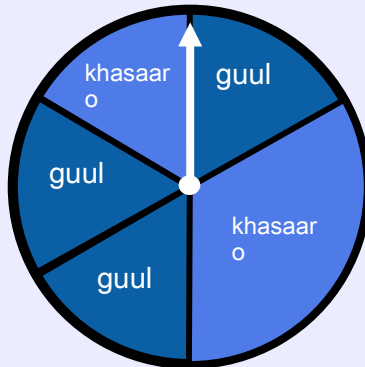
Xarafka B (letter B) ayaa u badan in la doorto (picked) marka loo eego xarafka A (letter A).



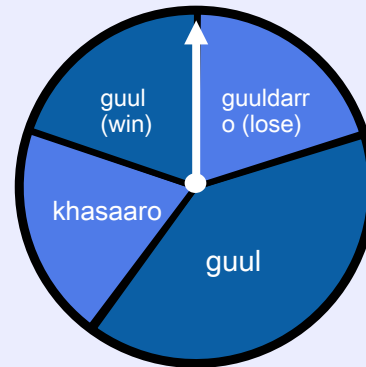
Wareegyada (spinners) kee ayaa leh natiijooyin (outcomes) aan isu dheellitirnayn (non-equally likely)?



a ✓



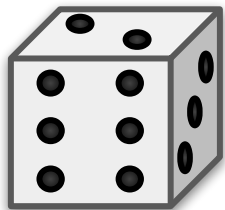
b



c ✓

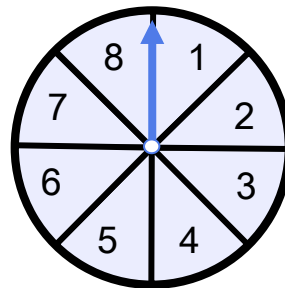
1) Xaalad kasta, calaamadee natiijada ama dhacdada ugu badan ee dhici karta.

a) duufaanka (rolling) dice-ga caadiga ah ee lix dhinac ah



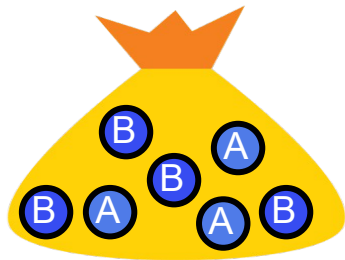
duufaanka (rolling) tiro ka mid ah 2 ama 3

b) wareejinta wareegga



ku degto qayb ka mid ah 8 ama ku degto qayb ka mid ah 12

c) soo qaadashada counter-ka shandadda

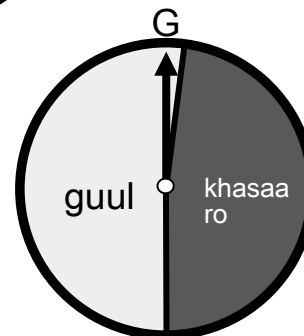
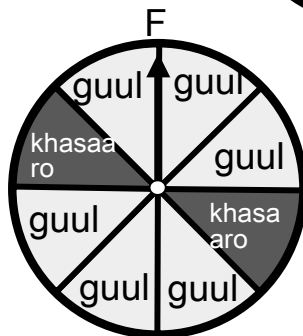
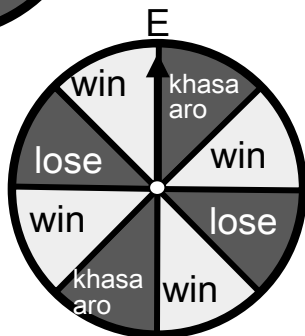
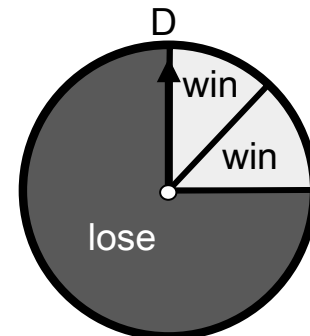
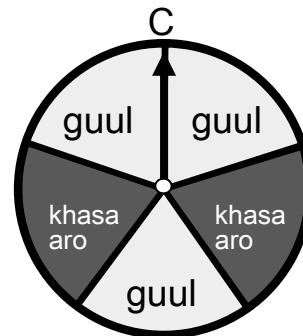
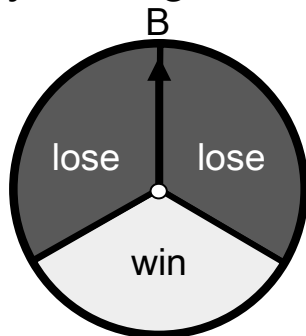
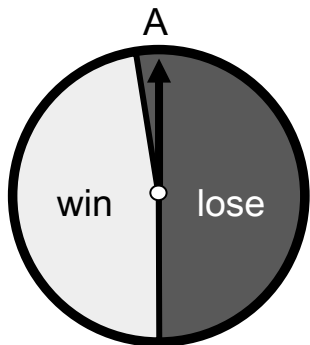


qaadashada A ama
qaadashada B

d) doorashada xaraf si random ah oo ka mid ah
MATHEMATICS

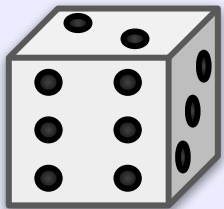
doorashada shaqal ama doorashada shibbane

2) Laga bilaabo kuwa ugu yar ee suurtoogalka ah, kala sooc wareegyada sida ay u kala suurtoogal yihiin inay ku degaan 'win'.



1) Xaalad kasta, calaamadee natiijada ama dhacdada ugu badan ee dhici karta.

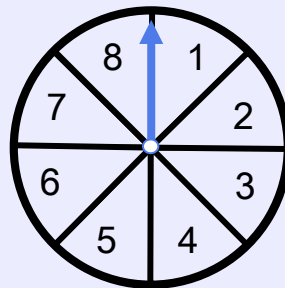
a) duufsashada sacabka lix-geesoodka ah ee caadiga ah



duufsashada tiro badan oo 2 ah ama
duufsashada tiro badan oo 3 ah



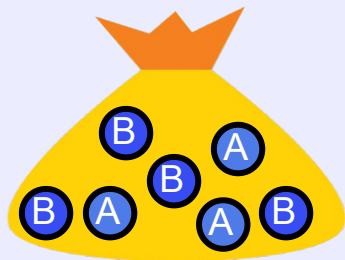
b) wareejinta wareegga



ku soo degto qayb ka mid ah 8 oo ah ku soo degto
qayb ka mid ah 12



c) soo qaadashada tiro (counter) bacda laga soo qaaday



soo qaadashada A oo
ah soo qaadashada B

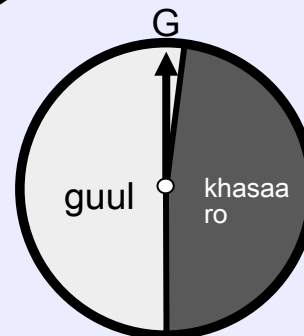
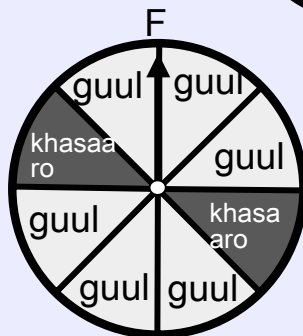
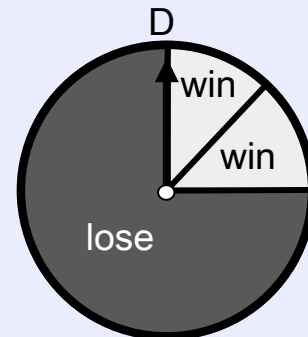
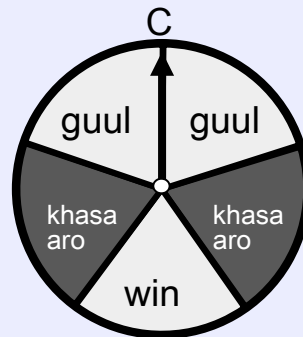
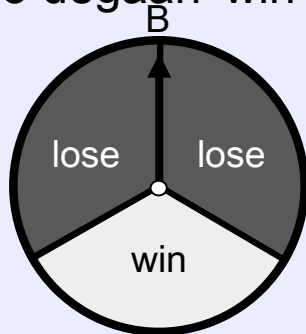
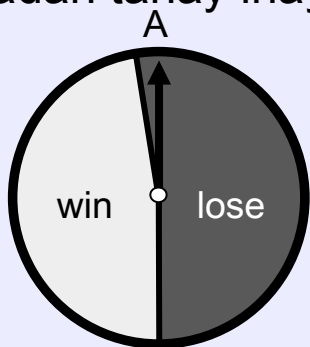


d) doorashada xaraf si aan kala sooc lahayn oo ka mid ah
erayga MATHEMATICS

doorashada shaqal (vowel) oo ah doorashada
shibbane (consonant)



2) Laga bilaabo kan ugu yar ee suurtoogalka ah, u kala saar spinners-ka sida ay u badan tahay inay ku soo degaan 'win'.



D, B, A, E, G, C, F

Natiijooyin aan simanayn



Aqoonsashada natiijada ay u badan tahay inay ka badan tahay mid kale

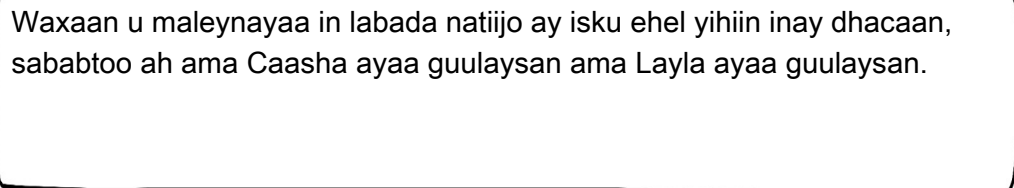


Garashada natiijooyinka aan simanayn ee macnaha guud

Layla iyo Caasha waxay isku ciyaarayaan ciyaar tennis.

Yacquub iyo Saciid waxay tixgelinayaan suurto galnimada natiijooyinka suurto galka ah.

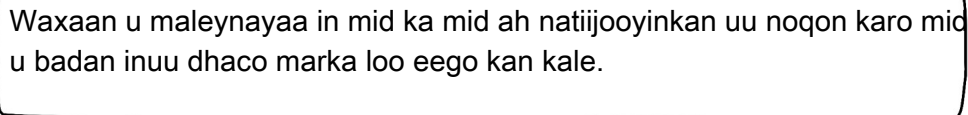
$\xi = \{\text{Caasha guulaysataa}, \text{Layla guulaysataa}\}$



Waxaan u maleynayaa in labada natiijo ay isku ehel yihiin inay dhacaan, sababtoo ah ama Caasha ayaa guulaysan ama Layla ayaa guulaysan.



Layla



Waxaan u maleynayaa in mid ka mid ah natiijooyinkan uu noqon karo mid u badan inuu dhaco marka loo eego kan kale.



Caasha



Yaa aad la raacsan tahay? Yacquub mise Saciid?

Layla iyo Caasha waxay isku ciyaarayaan ciyaar tennis.

Yacquub iyo Saciid waxay tixgelinayaan suurto galnimada natiijooyinka suurto galka ah.

$\xi = \{Caasha\ guulaysataa, Layla\ guulaysataa\}$



Layla



Caasha

Waxaan ciyaaraa tennis toddobaad kasta waxaana ku guuleystay tartamo badan.

Natiijooyinku ma isku ehel yihiin inay dhacaan? Mise natiijo mid ka mid ah ayaa u badan tan kale?



Yacquub



Saciid

Hadda waxaan u maleynayaa in Caasha ay u badan tahay inay guulaysato marka loo eego Layla.

Cali iyo Nuur waxay ka fikirayaan in roobku da'o berri.

$$\xi = \{roob, roob\ la'aan\}$$

Waxaan u malaynayaa in natiijooyinkan ay isku egtahay inay dhacaan, sababtoo ah waa roob ama roob la'aan.



Cali

Waxaan u malaynayaa in mid ka mid ah natiijooyinkan uu noqon karo mid ka badan kan kale, iyadoo ku xiran arrimo kale.



Nuur

$$\xi = \{roob, roob\ la'aan\}$$

Ictimaalka natiijadu waxay ku xiran tahay goobta.

Isbayn, waxaa laga yaabaa inay ka badan tahay in roob la'aan dhacdo maalin gaar ah marka loo eego roobka.

Laakiin UK, waxaa laga yaabaa inay ka badan tahay in roobku dhaco maalin gaar ah marka loo eego roob la'aanta.



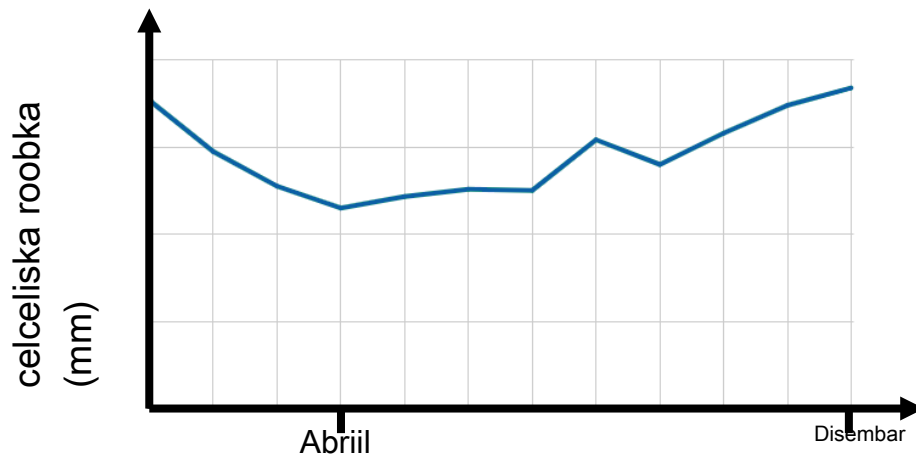
Nuur

Aqoonsiga natiijooyinka aan isku egnayn ee macnaha guud

$$\xi = \{roob, roob\ la'aan\}$$

Ictimaalka natiijadu waxay ku xiran tahay waqtiga.

Sida xogta Met Office laga soo bilaabo 1941 ilaa 2022, celceliska roobka ee Bradford wuxuu ugu yar yahay Abriil, ugu badanna Disembar.



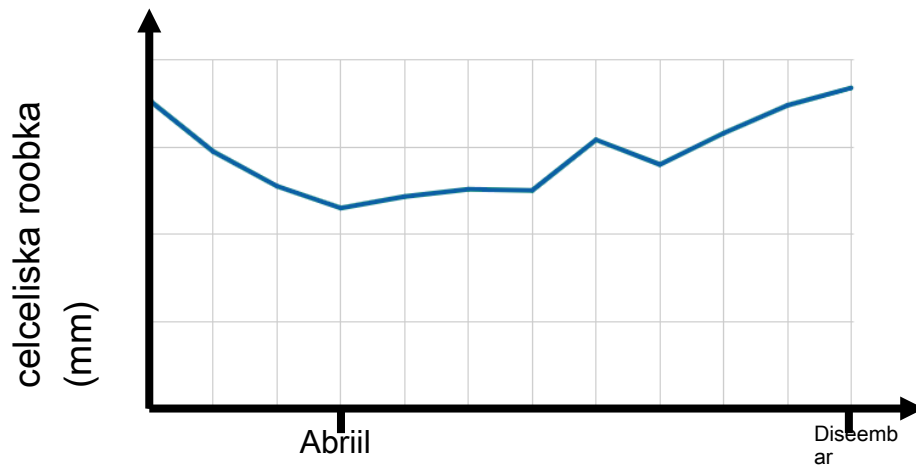
Nuur

Aqoonsiga natiijooyinka aan isku egnayn ee macnaha guud

$$\xi = \{roob, roob\ la'aan\}$$

Suurtogalnimada natijadu waxay ku xirnaan kartaa wakhtiga.

Marka, xilliga sanadka wuxuu noqon karaa qodob go'aaminaya haddii ay u badan tahay in roob da'o ama aan da'in.



Nuur

Aqoonsiga natiijooyinka aan simanayn ee macnaha guud



Suurtogalnimada laba natiijoo gaar ah waa la isbarbardhigi karaa, xitaa marka ay jiraan natiijooyin kale oo suurtoagal ah.

Cimilooyinka kee ayaa u badan inuu dhaco Boqortooyada Ingiriiska bisha Diseembar?

baraf



kulayl daran
(heatwave)

Kuwani ma aha labada natiijoo kaliya ee suurtoagal ah ee dhacdooyinka cimilada (tusaale, waxay noqon kartaa roob ama heerkul dhexdhexaad ah).

Laakiin natiijooyinkan gaarka ah wali waa la isbarbardhigi karaa si loo go'aamiyo in barafku uu ka badan yahay kulayl daran (heatwave) bisha Diseembar.

Cimilooyinka kee ayaa u badan inuu dhaco Boqortooyada Ingiriiska bisha Luulyo?

baraf

kulayl daran
(heatwave)



Run mise been?

Dabaasha bilow ah ayaa la tartamaya dabaasha xirfad leh. Waa isku mid suurto galnimada in qof kasta guuleysto.



Run



Been



Sabab u sheeg jawaabtaada



Ama bilowga ayaa guuleysan ama xirfadlaha ayaa guuleysan.



Dabaasha xirfadlaha ah ayaa u badan inuu guuleysto marka loo eego dabaasha bilowga ah.



1) Macnaha kasta, calaamadee natiijada ugu badan inay dhacdo.

macnaha guud	natiijada A	natiijada B
maalin bisha July ee UK	qabow (frost)	kulayl (heatwave)
maalin bisha December ee UK	qabow (frost)	kulayl (heatwave)
maalin bisha December ee Australia	qabow (frost)	kulayl (heatwave)
dukaan cabitaan ee UK bisha December	inta badan macaamiishu waxay iibsadaan smoothies qabow	inta badan macaamiishu waxay iibsadaan hot chocolates
ciyaaryahan darts xirfad leh oo ku tartamaya orod ciyaaryahan sprinter xirfad leh	ciyaaryahanka darts xirfaddu wuu guuleystaa	ciyaaryahanka sprinter xirfaddu wuu guuleystaa
ciyaaryahan darts xirfad leh oo ku tartamaya ciyaar darts ciyaaryahan sprinter xirfad leh	ciyaaryahanka darts xirfaddu wuu guuleystaa	ciyaaryahanka sprinter xirfaddu wuu guuleystaa

2) Xaalad kasta, qor arrin duruufeed oo saamayn karta suurto galnimada natiijooyinka.

a) Saciid iyo Axmed ayaa is ciyaaraya ciyaar shax (chess). $\xi = \{\text{Saciid wuu guuleystaa, Axmed wuu guuleystaa}\}$

b) Layla waxay saadaalinaysaa in roob baraf (snow) da'i doono maalin gaar ah. $\xi = \{\text{roob baraf, roob baraf ma da'o}\}$

c) Nuur wuxuu iibsanayaa jalaato (ice cream) oo wuxuu dooranayaa dhadhan. $\xi = \{\text{vanilla, strawberry, mint, chocolate}\}$

1) Duruuf kasta, calaamadee natiijada ugu badan ee dhici karta.

duruuf	natiijo A	natiijo B
maalin July ah UK	dhaxan (frost)	kulayl daran (heatwave) ✓
maalin December ah UK	dhaxan (frost) ✓	kulayl daran (heatwave)
maalin December ah Australia	dhaxan (frost)	kulayl daran (heatwave) ✓
dukaan cabbitaan (drink stall) UK December	macmiilasha badankood waxay iibsadaan smoothies qabow	macmiilasha badankood waxay iibsadaan hot chocolates ✓
ciyaaryahan xirfadle ah oo darts ah oo ku ordaya tartan ka dhanka ah orodyahan xirfadle ah	ciyaaryahanka darts-ka ee xirfadlaha ayaa guuleysta	orodyahanka xirfadlaha ayaa guuleysta ✓
ciyaaryahan xirfadle ah oo darts ah oo ku ciyaaraya ciyaar darts ka dhanka ah orodyahan xirfadle ah	ciyaaryahanka darts-ka ee xirfadlaha ayaa guuleysta ✓	orodyahanka xirfadlaha ayaa guuleysta

2) Xaalad kasta, qor arrin macnaha ah oo saameyn karta suurtoagalnimada natiijooyinka.

a) Saciid iyo Axmed ayaa isku ciyaaraya ciyaar chess. $\xi = \{\text{Saciid waa guuleystaa, Axmed waa guuleystaa}\}$

Khibrada ciyaaryahan kasta ee ciyaarta chess.

b) Layla ayaa saadaalinaysa in baraf da'ayo maalin gaar ah. $\xi = \{\text{baraf, baraf ma da'o}\}$

Wagtiga sanadka, goobta, cimilada maalmaha ka hor.

c) Nuur wuxuu iibsanayaa jalaato oo dooranayaa dhadhan. $\xi = \{\text{vanilla, strawberry, mint, chocolate}\}$

Dhadhanka Nuur uu doorbido.

- Ma aha dhammaan natiijooyinka tijaabada si isku mid ah u suurtoagal ah inay dhacaan.
- Natiijooyinka aan si isku mid ah u suurtoagal ahayn waa la isbarbardhigi karaa si loo go'aamiyo midka ugu suurtoagal badan inuu dhaco.
- Go'aaminta natiijada ugu suurtoagal badan waxaa saameyn kara arrimo macnaha ah.