

Isticmaalka xogta si loo taageero go'aan qaadashada



Computing

Unit Isticmaalka sayniska xogta (data science)

Natiijo

Waxaan sharxi karaa sida aragga xogta (visualising data) uu u kaa caawin karo in la ogaado qaababka iyo isbeddellada si loo helo faham (insights).

Erayada muhiimka ah

sayniska xogta (data science)

soo saarista macnaha xogta weyn si loo helo faham (insights) oo taageera go'aan qaadashada

arag (visualisation)

farsamooyin kala duwan oo loo isticmaalo in lagu muujiyo dhibaato iyo/ama xalkeeda si ay u fududaato fahamka

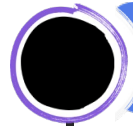
faham (insight)

fahamka wax-qabadka ah ee laga helo falanqaynta xogta

infographic

matagitaan aragga xogta, oo inta badan ku lug leh sawiro ka tarjumaya qaababka iyo ka caawiya sheeko-gaaritaanka

Isticmaalka xogta si loo taageero go'aan qaadashada



Qeex sayniska xogta (data science)



Sharax faa'iidooyinka aragga xogta (visualising data)



Isticmaal qalab software ah si aad u aragto xogta (visualise data)

Sayniska xogta (data science) waa soo saarista macnaha xogta weyn si loo helo faham (insights) oo taageera go'aan qaadashada.



Cunsurrada muhiimka ah ee sayniska xogta (data science) waxaa ka mid ah:

Ururinta xogta (data collection): ururinta xogta ceeriin (raw data) ilo kala duwan

Nadiifinta xogta (data cleaning): hagaajinta ama ka saarista xogta qaladka ah ama aan dhammaystirnayn

Falanqaynta xogta (data analysis): adeegsiga hababka tirakoobka (statistics) iyo barashada mashiinka (machine learning) si loo sahaamiyo xogta

Muujiinta xogta (data visualisation): abuurista jaantusyo (charts), garaafyo (graphs) iyo jaantusyo (diagrams) si loo fahmo xogta

Go'aan qaadashada (decision making): adeegsiga aragtiyaha xogta si loo taageero ama loo otomaatigiyo go'aanada



Adeegyada qulqulka TV-ga (TV streaming services) waxay u adeegsadaan sayniska xogta (data science) si ay u soo jeediyaan barnaamijyada TV-ga iyo filimada aad jeclaan karto. Waxay falanqeeyaan taariikhda daawashadaada waxayna barbardhigaan waxa ay daawadeen isticmaalayaasha kale.

Kee ayaa ugu fiican u qeexaya sayniska xogta (data science)?

a

darsiga kombuyuutarrada

b

hab lagu abuuro shabakadaha (websites)

c

adeegsiga xogta si loo taageero go'aan qaadashada



d

xallinta isla'egyada xisaabta (mathematical equations) iyadoo la adeegsanayo xogta



Waa maxay sababta ay sayniska xogta (data science) muhiim u tahay?

Saciid

Sayniska xogta (data science) wuxuu ka caawiyaa:

- ganacsiyada inay qaataan go'aanoyin ka wanaagsan
- dawladda inay qorsheeyaan adeegyo ka wanaagsan
- bixiyeyaasha daryeelka caafimaadka (healthcare providers) inay wanaajiyaan ogaanshaha cudurrada (diagnosis) iyo daaweynta

Dugsigaagu wuxuu doonayaa inuu wanaajiyo liiska qadada (lunch menu). Waxay ururiyeen sahan (survey) 200 arday ah oo ku saabsan dookhyadooda qadada, qanacsanaanta iyo soo jeedinta.



Maxay iskuulku ku ogaan karaan xogta la ururiyey?

Iskuulku wuxuu u isticmaali karaa xogta inuu ka jawaabo su'aalaha sida:

- waa maxay cuntooyinka ugu caansan/ugu yar?
- imisa ayay tahay inay ku qiimeeyaan cuntooyinka?
- maxay samayn karaan si ay u wanaajiyaan qadada iskuulka?



Kee ka mid ah kuwan soo socda ma aha isticmaal suurtagal ah ee sayniska xogta (data science)?

a predicting weather

b designing a logo



c recommending products online

d detecting fraud in bank transactions

- 1) In 2 or 3 sentences define what is meant by **data science**.
- 2) Sii tusaale dhab ah oo sayniska xogta (data science) loo isticmaalo.

1) In 2 or 3 sentences define what is meant by **data science**.

Sayniska xogta (data science) waa habka ururinta, falanqaynta iyo fasiraadda xog badan si loo ogaado qaabab, helo aragti, iyo go'aanno.

2) Sii tusaale dhab ah oo sayniska xogta (data science) loo isticmaalo.

Tusaale dhab ah oo sayniska xogta (data science) waa sida adeegga heesaha dhagaysta u soo jeediyo heeso. Wuxuu falanqeeyaa waxa isticmaaluhu dhageysto, uu ka boodo, iyo waxa uu jeclaado, ka dibna wuxuu u isticmaalaa xogtaas inuu soo jeediyo muusig uu laga yaabo inuu ku raaxaysto.

Using data to support decision making



Qeex sayniska xogta (data science)



Sharax faa'iidooyinka muujinta xogta (visualising data)



Isticmaal qalab software ah si aad u muujiso xogta (visualise data)

Sharax faa'iidooyinka muujinta xogta (visualising data)

Long	Lat	City	Temp	Long	Lat	Survivors	Direction	Division
24	55	Kowno	0	24	54.9	340000	A	1
25.3	54.7	Wilna	0	24.5	55	340000	A	1
26.4	54.4	Smorgoni	-9	25.5	54.5	340000	A	1
26.8	54.3	Molodexno	-21	26	54.7	320000	A	1
27.7	55.2	Gloubokoe	-11	27	54.8	300000	A	1
27.6	53.9	Minsk	-20	28	54.9	280000	A	1
28.5	54.3	Studienuka	-24	28.5	55	240000	A	1
28.7	55.5	Polotzk	-30	29	55.1	210000	A	1
29.2	54.4	Bobr	-26	30	55.2	180000	A	1
30.2	55.3	Witebak		30.3	55.3	175000	A	1
30.4	54.5	Orscha		32	54.8	145000	A	1
30.4	53.9	Mohilow		33.2	54.9	140000	A	1
32	54.8	Smolensk		34.4	55.5	127100	A	1
33.2	54.9	Dorogobouge		35.5	55.4	100000	A	1
34.3	55.2	Wixma		36	55.5	100000	A	1
34.4	55.5	Chjat		37.6	55.8	100000	R	1
36	55.5	Mojaisk		37.5	55.7	98000	R	1

Maxay xogtan ku tusaysaa?

Maxaad ka soo saari kartaa macluumaad?

Ma sheegaysaa sheeko?



Joseph Minard wuxuu isticmaalay lambarradan 1869 si uu u helo macne una sheeko xogta.

Xogta aad eegtay waxay la xiriirtaa duullaankii Napoleon ee Ruushka 1812.

Lambarrada kaligood wax badan kama sheegaan, laakiin Joseph Minard wuxuu abuuray waxa si weyn loogu tixgeliyo garaafka tirakoobka (statistical graph) ee ugu fiican abid.

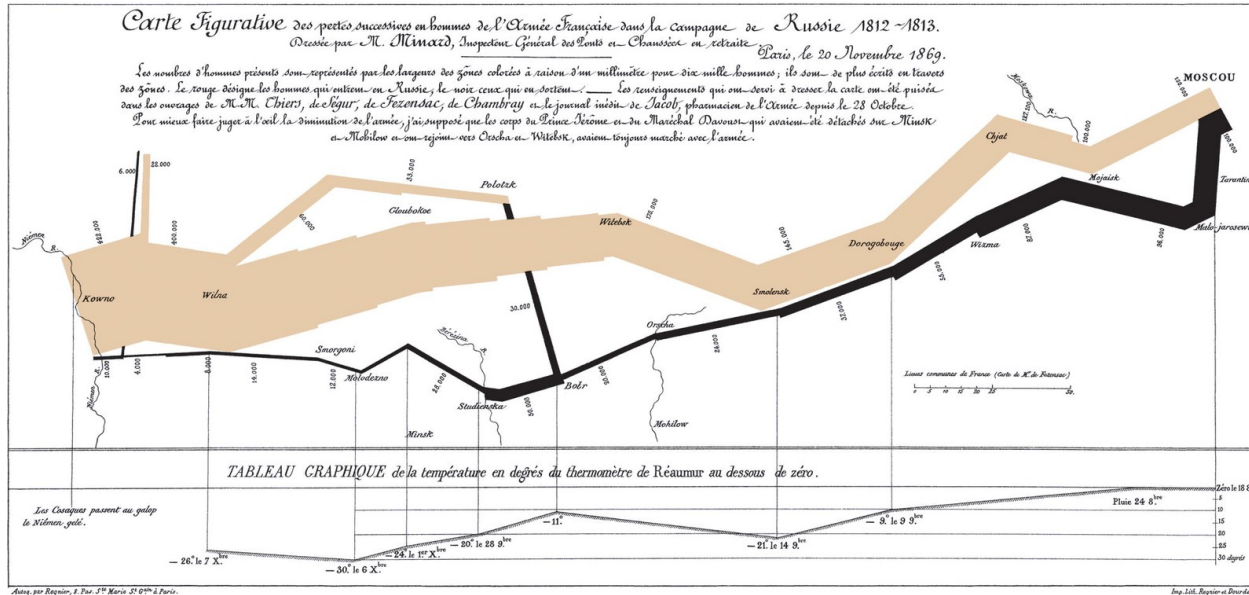
Long	Lat	Magaalo (City)	Temp	Dheer (Long)	Lat	Badbaaday aal (Survivors)	Jihada (Direction)	Qaybinta (Division)
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25.3	54.7	Wilna	0	24.5	55	340000	A	1
26.4	54.4	Smorgoni	-9	25.5	54.5	340000	A	1
26.8	54.3	Molodexno	-21	26	54.7	320000	A	1

Sharax faa'iidooyinka aragga xogta (visualising data)



Sharaxaad

Muuqaalkan wuxuu muujinayaa cabbirka ciidanka Faransiiska markii ay ku soo duuleen Ruushka ka dibna ay dib u gurteen. Wuxuu ku darayaa xogta ciidamada, goobta juqraafiga, jihada safarka iyo heerkulka.



Sharaxaad

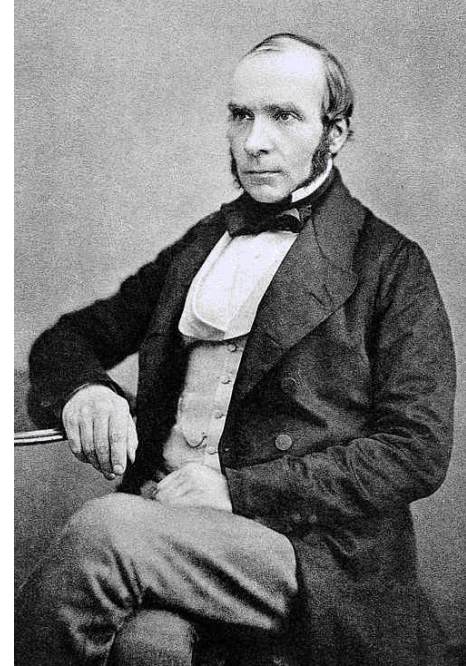


Sharax faa'iidooyinka aragga xogta (visualising data)

Sanadkii 1854, waxaa ka dillaacay xanuunka daacuunka (cholera) aagga Soho ee London.

Waqtigaas, waxaa si weyn loo rumaysnaa in daacuunka (cholera) uu sabab u yahay wasakhda hawada.

Indha-indhaynta John Snow ee caddaynta ayaa u horseeday inuu diido rumaysankan, laakiin ma uu caddayn karin sida dadku ugu dhaceen cudurka.



John Snow wuxuu sameeyay khariidad dhibco (dot map) oo Soho ah.

Dhibcaha (ama qaybaha hadhka leh) ee khariidadda waxay ka dhigan yihiin meel uu ka dhacay dhimasho la xiriirta daacuunka (cholera).



Sharax faa'iidooyinka aragga xogta (visualising data)

Maxay dhibcuhu kuu sheegayaan dhimashada la xiriirta daacuunka (cholera) ee Soho?

Dadkii dhintay waxay ku sugnaayeen aag yar oo Soho ah. Dhibcaha oo dhammi waxay isku dhow yihiin.

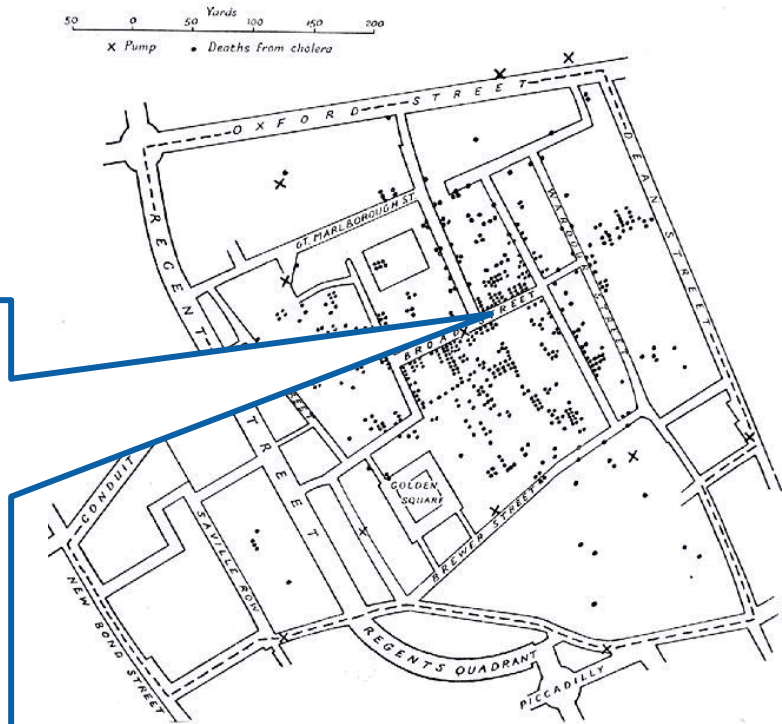


Sharax faa'iidooyinka muujinta xogta (visualising data)



Sharaxaad

John Snow wuxuu khariidadda ku calaamadeeyay meesha tuubada biyaha (water pump) ee Broad Street.



Maxay yihiin gabagabada (conclusions) aad u malaynaysaa inuu John Snow sameeyay isagoo isticmaalaya muujintan (visualisation)?

In cudurka daacuunka (cholera) uusan sababi karin wasakhda hawada, laakiin waxaa sababay dadka cabbayay biyaha (water) ka yimid tuubada biyaha (water pump) ee Broad Street.



Muujintan xogta (data visualisation) waxay ka caawisay inuu caddeeyo aragtidiisa (theory) ah in dadkii dhintay oo dhami ay isticmaaleen tuubadan biyaha (water pump) si ay u cabbaan biyo (water).

Khariidadan (map) waxay ka caawisay inay ku qanciso golaha deegaanka (local council) inay si degdeg ah uga saaraan gacanta tuubada. Nolol badan ayaa la badbaadiyay.



Sharax faa'iidooyinka muujinta xogta (visualising data)

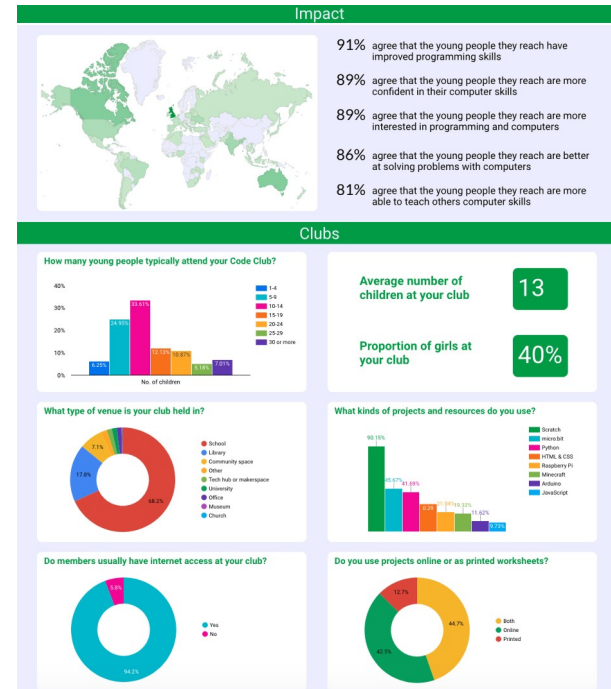


Sharaxaad

Muujinta xogta (data visualisations) waa matalaad muuqaal ah oo xogta (data) ah (sida jaantusyada (charts) iyo garaafyada (graphs)) oo loogu talagalay inay ka caawiso dhagaystayaasha inay si fudud u fahmaan macluumaadka oo ay helaan fikrad cad oo ku saabsan xogta (data) hal ilbidhiqsi.

Infografiyada (infographics) waa matalaad muuqaal ah oo xogta (data) ah, oo inta badan ku lug leh sawiro ka tarjumaya qaababka (patterns) oo ka caawiya sheeko-gaaritaanka.

Infografiyada (infographics) inta badan waxay ku jiraan muujinno (visualisations) kala duwan.



Infografik (infographic) ku saabsan saamaynta naadiyada koodka (code clubs)

Waxaa jira faa'iidooyin badan oo muujinta xogta (visualising data) ka timaadda xogta (data) weyn, waxaana ka mid ah:

- jaantusyada (charts), garaafyada (graphs) iyo sawirada ayaa mararka qaarkood fudud in la fahmo maxaa yeelay waxay ka dhigaan xogta (data) mid fudud in la akhriyo oo muujiya qaababka (patterns)
- soo bandhigista xogta (data) qaab muuqaal ah waxay kaa caawin kartaa inaad aragto xiriirrada (relationships), sida xogta (data) ugu beddelanto waqti ka dib, waxayna xitaa kaa caawin kartaa inaad ogaato khaladaadka (errors)

1) Sharax faa'iidooyinka muujinta xogta (visualising data).

1) Sharax faa'iidooyinka muujinta xogta (visualising data).

Muujinta xogta (visualising data) waxay kaa caawinaysaa inaad si degdeg ah u fahanto macluumaad badan.

Soo bandhigida xogta qaab muuqaal ah waxay kaa caawin kartaa inaad aragto xiriirka, sida xogtu u beddesho waqti ka dib, waxayna xitaa kaa caawin kartaa inaad aragto qaladaadka.

Tusaale ahaan, haddii shirkaddu ay haysato xogta waxa malaayiin qof oo daawaday adeegga TV streaming, waxay isticmaali karaan jaantus goobeed (pie chart) ama jaantus usheed (bar graph) si ay u arkaan bandhigyada ugu caansan. Tani waxay ka dhigaysaa mid fudud in la arko isbeddellada halkii laga eegi lahaa kumanaan saf oo tiro ah.

Isticmaalka xogta si loo taageero go'aan qaadashada



Qeex sayniska xogta (data science)



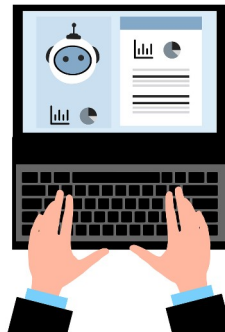
Sharax faa'iidooyinka muujinta xogta (visualising data)



Isticmaal qalab software ah si aad u muujiso xogta (visualise data)

Falanqaynta xog badan waxay noqon kartaa mid waqti badan qaadata oo adag.

Qalabka software waxay kaa caawin karaan inaad falanqayso xog uruurin (data sets) oo aad abuurto muujin (visualisations).



Isticmaalka qalabka muujinta xogta (data visualisation) waa faa'iido sababtoo ah waxay ka dhigaan mid fudud in xog weyn loo rogo jaantusyo cad, garaafyo iyo infographics.

Qalabkani waxay badbaadiyaan waqti, way fudud yihiin in la isticmaalo, waxayna inta badan kuu ogolaadaan inaad beddesho midabada ama qaababka si aad shaqadaada uga dhigto mid fiican oo la fahmi karo.

Qaybtan darsiga (lesson), waxaan isticmaalaynaa xog ku saabsan tirooyinka daawashada TV-ga.

Waxaad muujinaysaa (visualise) xog ku saabsan barnaamijyada TV-ga ugu sarreeya iyo sida loo daawaday (tusaale, TV-ga ama qalab kale).



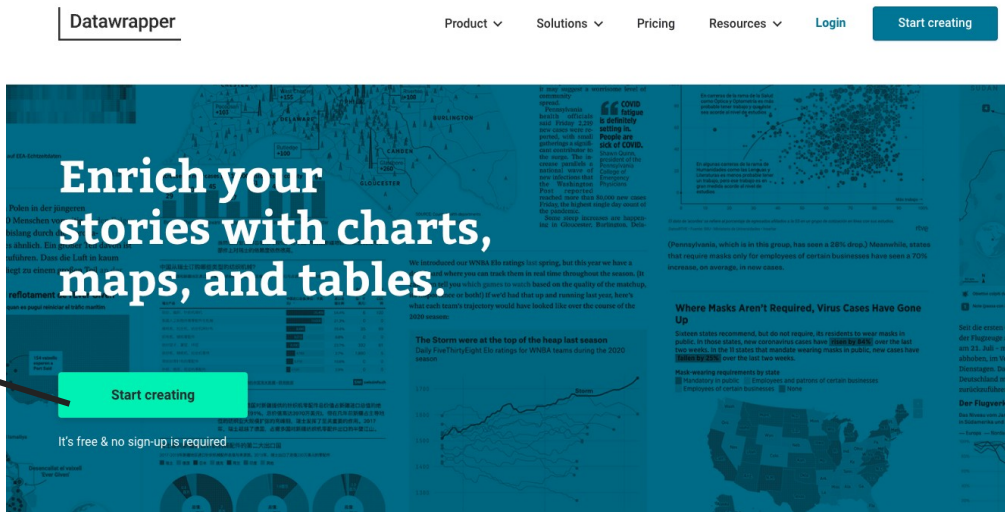
Xog muunad ah viewing-data.csv ayaa loo diyaariyay il dheeri ah oo darsigan (lesson) ah.

Waxaad bixinaysaa aragtiyo (insights) ku saabsan qalabka (aan ahayn TV-yada) ugu caansan daawashada barnaamijyada TV-ga.



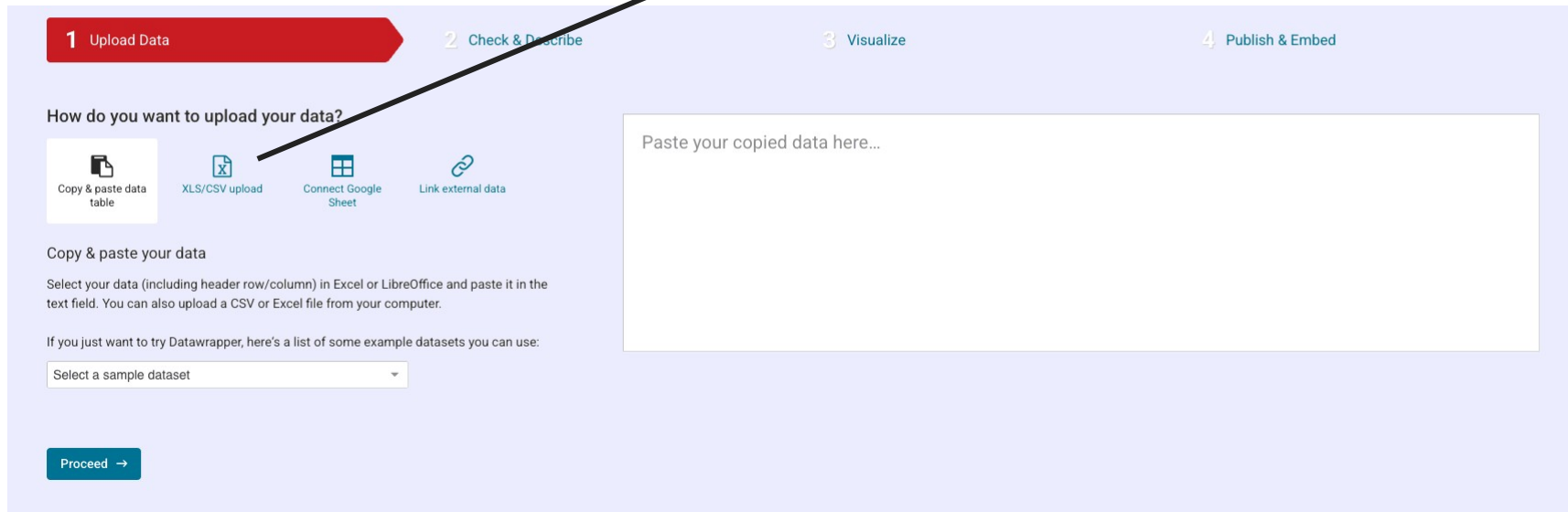
Isticmaal qalab software ah si aad u muujiso xogta (visualise data)

Waxaad isticmaalaysaa qalab online ah oo loogu talagalay muujinta xogta (data visualisation), kaas oo laga heli karo: oak.link/datawrapper



Guji Start creating

Si aad u bilowdo, waa inaad soo gasho xogtaada. Guji badhanka XLS/CSV upload-ka oo u gudub faylka viewing-data.csv ee lagu kaydiyay kombiyuutarkaaga.



The screenshot shows the first step of the Datawrapper upload process. At the top, there are four numbered steps: 1. Upload Data (highlighted in red), 2. Check & Describe, 3. Visualize, and 4. Publish & Embed. Below the steps, the heading "How do you want to upload your data?" is followed by four options: "Copy & paste data table" (with a document icon), "XLS/CSV upload" (with an Excel icon), "Connect Google Sheet" (with a Google Sheet icon), and "Link external data" (with a link icon). A black arrow points from the text above to the "XLS/CSV upload" option. Below these options, there is a section titled "Copy & paste your data" with instructions: "Select your data (including header row/column) in Excel or LibreOffice and paste it in the text field. You can also upload a CSV or Excel file from your computer." Below this, it says "If you just want to try Datawrapper, here's a list of some example datasets you can use:" followed by a dropdown menu labeled "Select a sample dataset". At the bottom left, there is a "Proceed →" button. On the right side, there is a large text area with the placeholder text "Paste your copied data here...".

Isticmaal qalab software ah si aad u muujiso xogta (visualise data)

Xogta ka timid faylka csv waxay ka soo bixi doontaa qaybta horudhaca (preview panel).

1 Upload Data

2 Check & Describe ✓

3 Visualize

4 Publish & Embed

How do you want to upload your data?


Copy & paste data table


XLS/CSV upload


Connect Google Sheet


Link external data

Upload CSV or Excel spreadsheets

Select your data (including header row/column) in Excel or LibreOffice and paste it in the text field. You can also upload a CSV or Excel file from your computer.

If you just want to try Datawrapper, here's a list of some example datasets you can use:

Select a sample dataset

```
Rank, Programme, Channel, Broadcaster group, TV set, PC/Laptop, Tablet, Smartphone, TOTAL
1, ANT AND DEC'S SATURDAY NIGHT TAKEAWAY (SAT 19:00), ITV/Breakfast Total, ITV, 8611000, 30890, 32780, 20360, 8695030
2, CALL THE MIDWIFE (SUN 20:01), BBC 1 (inc HD), BBC, 7827800, 66634, 86840, 29824, 8011098
3, DEATH IN PARADISE (THU 21:00), BBC 1 (inc HD), BBC, 7050700, 54521, 54667, 22425, 7182313
4, CORONATION STREET (MON 19:31), ITV/Breakfast Total, ITV, 6973400, 30380, 53289, 30965, 7088034
5, CORONATION STREET (FRI 19:31), ITV/Breakfast Total, ITV, 6922600, 30589, 58108, 34628, 7045925
6, CORONATION STREET (MON 20:29), ITV/Breakfast Total, ITV, 6576200, 31567, 59329, 34254, 6701349
7, LAST TANGO IN HALIFAX (SUN 21:01), BBC 1 (inc HD), BBC, 6500900, 77245, 79467, 15517, 6673128
8, CORONATION STREET (WED 19:31), ITV/Breakfast Total, ITV, 6517100, 30450, 54482, 30276, 6632308
9, EMMERDALE (TUE 19:00), ITV/Breakfast Total, ITV, 6433900, 18631, 42121, 21381, 6516033
10, EASTENDERS (FRI 20:31), BBC 1 (inc HD), BBC, 6086700, 127657, 118949, 133047, 6466352
11, EMMERDALE (MON 19:00), ITV/Breakfast Total, ITV, 6301900, 18530, 41804, 22654, 6384888
12, FASTENERS (TUE 19:31), BBC 1 (inc HD), BBC, 6042400, 117009, 109273, 105393, 6374025
```

Proceed →

Guji 2 Hubi & Describe

1 Upload Data ✓

2 Check & Describe

3 Visualize

4 Publish & Embed

Make sure the data looks right

Please make sure that Datawrapper interprets your data correctly. In the table **number** columns should be shown in blue, **dates** in green and **text** in black. A **red** cell indicates a problem in your dataset that needs to be fixed. **—** cells contain no data.

☒ First row as label

Output locale

Defines decimal and thousand separators as well as translation of month and weekday names.

English (en-US)

Click on table header to edit column properties

	A	B	C	D	E	F	G	H	I
1	Rank	Programme	Channel	Broadcaster group	TV set	PC/Laptop	Tablet	Smartphone	TOTAL
2	1	ANT AND DEC'S SATURDAY NIGHT TAKEAWAY (SAT 19:00)	ITV/Breakfast Total	ITV	8,611,000	30,890	32,780	20,360	8,695,030
3	2	CALL THE MIDWIFE (SUN 20:01)	BBC 1 (inc HD)	BBC	7,827,800	66,634	86,840	29,824	8,011,098
4	3	DEATH IN PARADISE (THU 21:00)	BBC 1 (inc HD)	BBC	7,050,700	54,521	54,667	22,425	7,182,313
5	4	CORONATION STREET (MON 19:31)	ITV/Breakfast Total	ITV	6,973,400	30,380	53,289	30,965	7,088,034
6	5	CORONATION STREET (FRI 19:31)	ITV/Breakfast Total	ITV	6,922,600	30,589	58,108	34,628	7,045,925
7	6	CORONATION STREET (MON 20:29)	ITV/Breakfast Total	ITV	6,576,200	31,567	59,329	34,254	6,701,349
8	7	LAST TANGO IN HALIFAX (SUN 21:01)	BBC 1 (inc HD)	BBC	6,500,900	77,245	79,467	15,517	6,673,128
9	8	CORONATION STREET (WED 19:31)	ITV/Breakfast Total	ITV	6,517,100	30,450	54,482	30,276	6,632,308
10	9	EMMERDALE (TUE 19:00)	ITV/Breakfast Total	ITV	6,433,900	18,631	42,121	21,381	6,516,033
11	10	EASTENDERS (FRI 20:31)	BBC 1 (inc HD)	BBC	6,086,700	127,657	118,949	133,047	6,466,352
12	11	EMMERDALE (MON 19:00)	ITV/Breakfast Total	ITV	6,301,900	18,530	41,804	22,654	6,384,888
13	12	EASTENDERS (TUE 19:31)	BBC 1 (inc HD)	BBC	6,042,400	117,009	109,223	105,393	6,374,025
14	13	EMMERDALE (FRI 18:59)	ITV/Breakfast Total	ITV	6,280,000	18,555	43,471	24,593	6,366,619
15	14	EASTENDERS (THU 19:29)	BBC 1 (inc HD)	BBC	5,868,300	117,350	107,893	105,297	6,198,840
16	15	CORONATION STREET (WED 20:31)	ITV/Breakfast Total	ITV	6,019,900	31,768	61,204	34,752	6,147,624

Isticmaal qalab software ah si aad u muujiso xogta (visualise data)

Tani waxay muujinaysaa xogta aad rabto inaad muujiso. Waxaa laga yaabaa inaad rabin inaad ku daro dhammaan xogta muujintaada.

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2 Check & Describe

3 Visualize

4 Publish & Embed

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6	5	CORONATION STREET (FRI 19:31)	ITV/Breakfast Total	ITV	6,922,600	30,589	58,108	34,628	7,045,925
7	6	CORONATION STREET (MON 20:29)	ITV/Breakfast Total	ITV	6,576,200	31,567	59,329	34,254	6,701,349
8	7	LAST TANGO IN HALIFAX (SUN 21:01)	BBC 1 (inc HD)	BBC	6,500,900	77,245	79,467	15,517	6,673,128
9	8	CORONATION STREET (WED 19:31)	ITV/Breakfast Total	ITV	6,517,100	30,450	54,482	30,276	6,632,308
10	9	EMMERDALE (TUE 19:00)	ITV/Breakfast Total	ITV	6,433,900	18,631	42,121	21,381	6,516,033
11	10	EASTENDERS (FRI 20:31)	BBC 1 (inc HD)	BBC	6,086,700	127,657	118,949	133,047	6,466,352
12	11	EMMERDALE (MON 19:00)	ITV/Breakfast Total	ITV	6,301,900	18,530	41,804	22,654	6,384,888
13	12	EASTENDERS (TUE 19:31)	BBC 1 (inc HD)	BBC	6,042,400	117,009	109,223	105,393	6,374,025
14	13	EMMERDALE (FRI 18:59)	ITV/Breakfast Total	ITV	6,280,000	18,555	43,471	24,593	6,366,619
15	14	EASTENDERS (THU 19:29)	BBC 1 (inc HD)	BBC	5,868,300	117,350	107,893	105,297	6,198,840
16	15	CORONATION STREET (WED 20:31)	ITV/Breakfast Total	ITV	6,019,900	31,768	61,204	34,752	6,147,624

Isticmaal qalab software ah si aad u muujiso xogta (visualise data)

Guji madaxa tiirka (column heading) ee xogta aadan rabin inaad ku dar. Xaaladdan, ma rabno inaan ku darro Channel-ka maxaa yeelay looma baahna baaritaankayaga.

	A	B	C	D	E	F	G	H	I
1	Rank	Programme	Channel	Broadcaster group	TV set	PC/Laptop	Tablet	Smartphone	TOTAL
2	1	ANT AND DEC'S SATURDAY NIGHT TAKEAWAY (SAT 19:00)	ITV/Breakfast Total	ITV	8,611,000	30,890	32,780	20,360	8,695,030
3	2	CALL THE MIDWIFE (SUN 20:01)	BBC 1 (inc HD)	BBC	7,827,800	66,634	86,840	29,824	8,011,098
4	3	DEATH IN PARADISE (THU 21:00)	BBC 1 (inc HD)	BBC	7,050,700	54,521	54,667	22,425	7,182,313
5	4	CORONATION STREET (MON 19:31)	ITV/Breakfast Total	ITV	6,973,400	30,380	53,289	30,965	7,088,034
6	5	CORONATION STREET (FRI 19:31)	ITV/Breakfast Total	ITV	6,922,600	30,589	58,108	34,628	7,045,925
7	6	CORONATION STREET (MON 20:29)	ITV/Breakfast Total	ITV	6,576,200	31,567	59,329	34,254	6,701,349
8	7	LAST TANGO IN HALIFAX (SUN 21:01)	BBC 1 (inc HD)	BBC	6,500,900	77,245	79,467	15,517	6,673,128
9	8	CORONATION STREET (WED 19:31)	ITV/Breakfast Total	ITV	6,517,100	30,450	54,482	30,276	6,632,308
10	9	EMMERDALE (TUE 19:00)	ITV/Breakfast Total	ITV	6,433,900	18,631	42,121	21,381	6,516,033
11	10	EASTENDERS (FRI 20:31)	BBC 1 (inc HD)	BBC	6,006,700	127,657	118,949	133,047	6,466,352
12	11	EMMERDALE (MON 19:00)	ITV/Breakfast Total	ITV	6,301,900	18,530	41,804	22,654	6,384,888
13	12	EASTENDERS (TUE 19:31)	BBC 1 (inc HD)	BBC	6,042,400	117,009	109,223	105,393	6,374,025
14	13	EMMERDALE (FRI 18:59)	ITV/Breakfast Total	ITV	6,280,000	18,555	43,471	24,593	6,366,619
15	14	EASTENDERS (THU 19:29)	BBC 1 (inc HD)	BBC	5,868,300	117,350	107,893	105,297	6,198,840
16	15	CORONATION STREET (WED 20:31)	ITV/Breakfast Total	ITV	6,019,900	31,768	61,204	34,752	6,147,624

Kadib guji badhanka check-ka ee 'Hide column from visualization'

1 Upload Data ✓ 2 Check & Describe 3 Visualize 4 Publish & Embed

Edit column "Channel"

Column type: auto (text)

☒ Hide column from visualization

Click on table header to edit column properties

Sort view by... Search data table

	A	B	C	D	E	F	G	H	I
	Rank	Programme	Channel	Broadcaster group	TV set	PC/Laptop	Tablet	Smartphone	TOTAL
1	1	ANT AND DEC'S SATURDAY NIGHT TAKEAWAY (SAT 19:00)	ITV/Breakfast-Totals	ITV	8,611,000	30,890	32,780	20,360	8,695,030
2	2	CALL THE MIDWIFE (SUN 20:01)	BBC-1 (inc HD)	BBC	7,827,800	66,634	86,840	29,824	8,011,098
3	3	DEATH IN PARADISE (THU 21:00)	BBC-1 (inc HD)	BBC	7,050,700	54,521	54,667	22,425	7,182,313
4	4	CORONATION STREET (MON 19:31)	ITV/Breakfast-Totals	ITV	6,973,400	30,380	53,289	30,965	7,088,034
5	5	CORONATION STREET (FRI 19:31)	ITV/Breakfast-Totals	ITV	6,922,600	30,589	58,108	34,628	7,045,925
6	6	CORONATION STREET (MON 20:29)	ITV/Breakfast-Totals	ITV	6,576,200	31,567	59,329	34,254	6,701,349
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8	8	CORONATION STREET (WED 19:31)	ITV/Breakfast-Totals	ITV	6,517,100	30,450	54,482	30,276	6,632,308
9	9	EMMERDALE (TUE 19:00)	ITV/Breakfast-Totals	ITV	6,433,900	18,631	42,121	21,381	6,516,033
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11	11	EMMERDALE (MON 19:00)	ITV/Breakfast-Totals	ITV	6,301,900	18,530	41,804	22,654	6,384,888
12	12	EASTENDERS (TUE 19:31)	BBC-1 (inc HD)	BBC	6,042,400	117,009	109,223	105,393	6,374,025
13	13	EMMERDALE (FRI 18:59)	ITV/Breakfast-Totals	ITV	6,280,000	18,555	43,471	24,593	6,366,619
14	14	EASTENDERS (THU 19:29)	BBC-1 (inc HD)	BBC	5,868,300	117,350	107,893	105,297	6,198,840
15	15	CORONATION STREET (WED 20:31)	ITV/Breakfast-Totals	ITV	6,333,000	24,760	54,001	24,760	6,416,521

Tani waxay ku calaamadayn doontaa qoraalka tiirka la doortay.

Ma jiraan tiir kale oo aad rabto inaad ka saarto muujintaada?

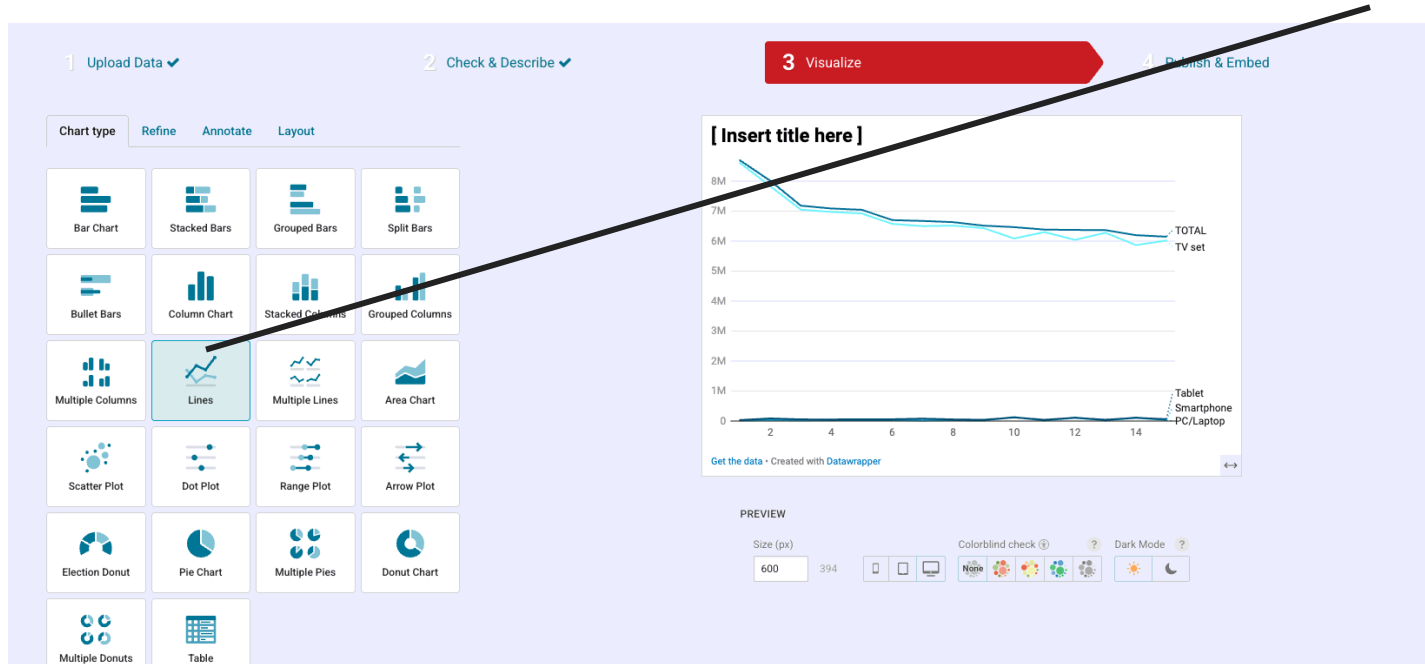
Tilmaan: waxaad muujin doontaa xog ku saabsan barnaamijyada TV-ga ugu sarreeya iyo sida loo daawaday.

	A	B	C	D	E	F	G	H	I
1	Rank	Programme	Channel	Broadcaster group	TV set	PC/Laptop	Tablet	Smartphone	TOTAL
2	1	ANT AND DEC'S SATURDAY NIGHT TAKEAWAY (SAT 19:00)	ITV/Breakfast Total	ITV	8,611,000	30,890	32,780	20,360	8,695,030
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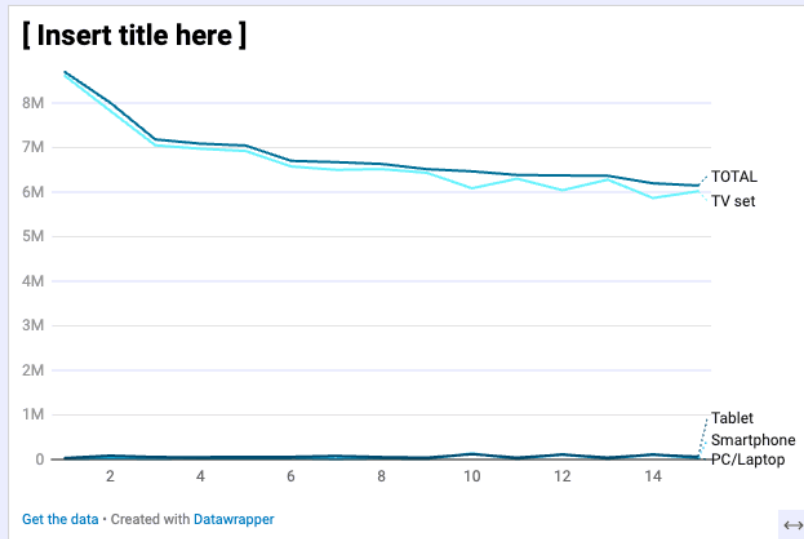
Kooxda baahinta (Broadcaster group) looma baahna sawirkaaga (visualisation) sababtoo ah kuma xidhna qalabka la isticmaalay.

Isticmaal qalab software ah si aad u sawirto xogta (visualise data)

Guji 3 Visualize. Garaafka (graph) wuxuu noqon doonaa garaaf xariiq (line graph) asal ahaan.



Waa maxay dhibaataada garaafkan (graph)?



Sababtoo ah waxaa jira farqi weyn ama kala duwanaansho u dhexeeya daawashada 'TOTAL' iyo 'TV set' iyo daawashada qalabka kale, garaafku (graph) ma caawiyo wax badan oo waa yar yahay macluumaadka.

Sidee tan loo hagaajin karaa?

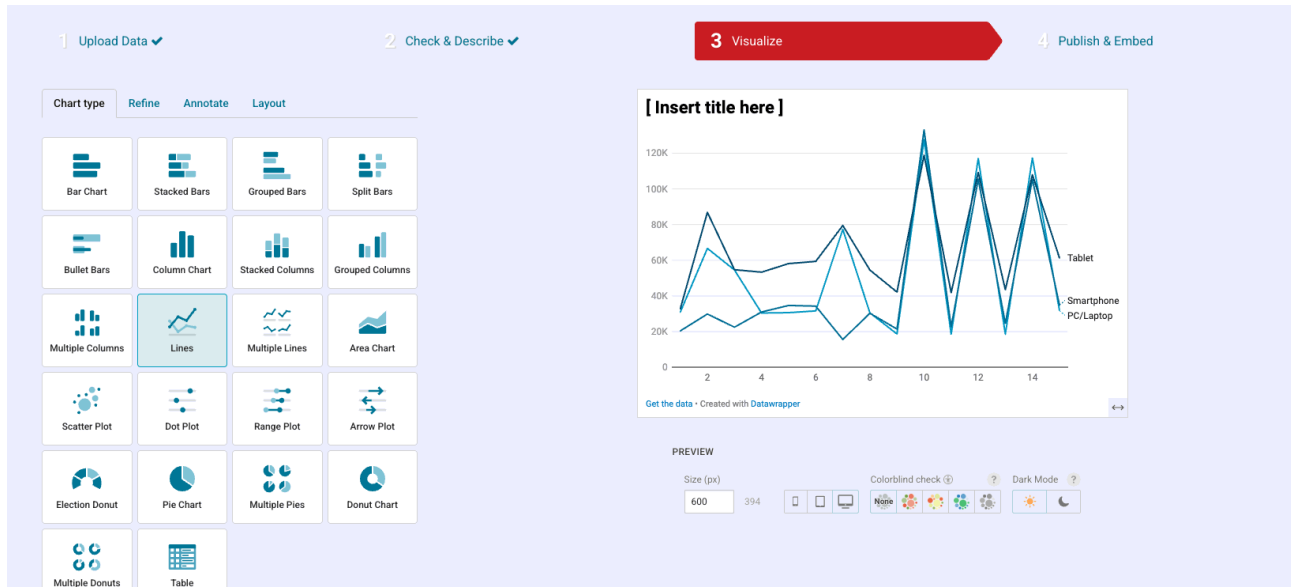
Adigoo ka saaraya 'TV set' iyo 'TOTAL' sawirka (visualisation), sida aan uga saarnay Channel iyo Broadcaster group, waxaan diirada saari karnaa xogta qalabka kale.

Ku noqo tillaabada 2 Hubi & Describe oo ka saar 'TV set' sawirka (visualisation).

Guji 3 Visualize si aad dib uga soo saarto sawirka (visualisation).

Isticmaal qalab software ah si aad u sawirto xogta (visualise data)

Garaafku (graph) hadda waa ka siman yahay.

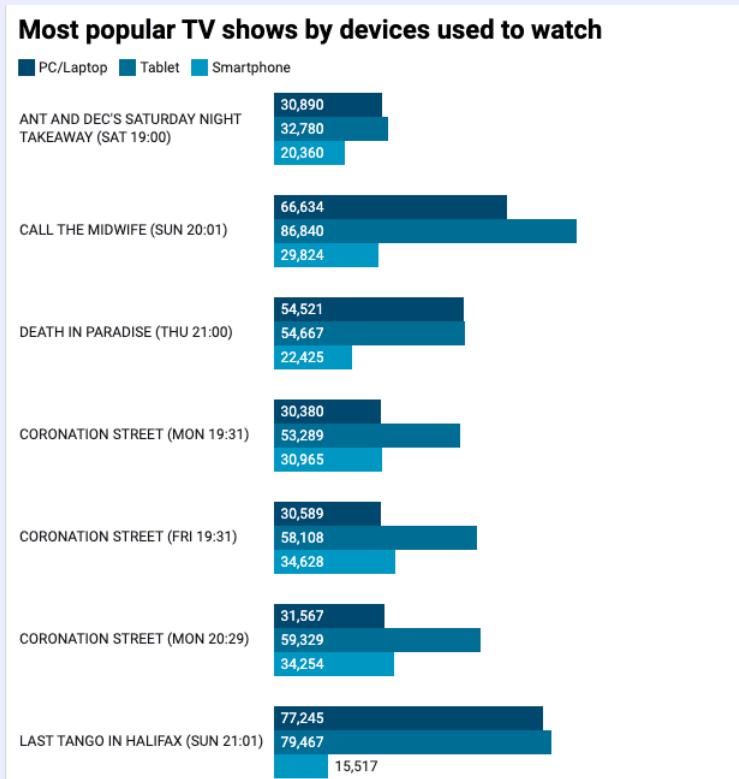


Laakiin ma kani waa nooca ugu fiican ee jaantuska (chart) si ay nooga caawiso fahamka xogta?

- 1) Raac tillaabooyinka la muujiyay si aad u soo gasho (upload) faylka csv ee viewing-data.csv oo aad u sawirto xogta (visualise the data).
- 2) Baadh ikhtiyaarada garaafka (graph options) oo dooro kan aad u malaynayso inuu si fiican u gudbiyo macluumaadka. Sharax sababaha doorashadaada.
- 3) Ma jiraan tiirar kale oo xog ah oo aad ka saari karto si loo hagaajiyo sawirka (visualisation)?
- 4) Maxaa fahmooyin (insights) ah oo aad ka heshay sawirkaaga (visualisation)?

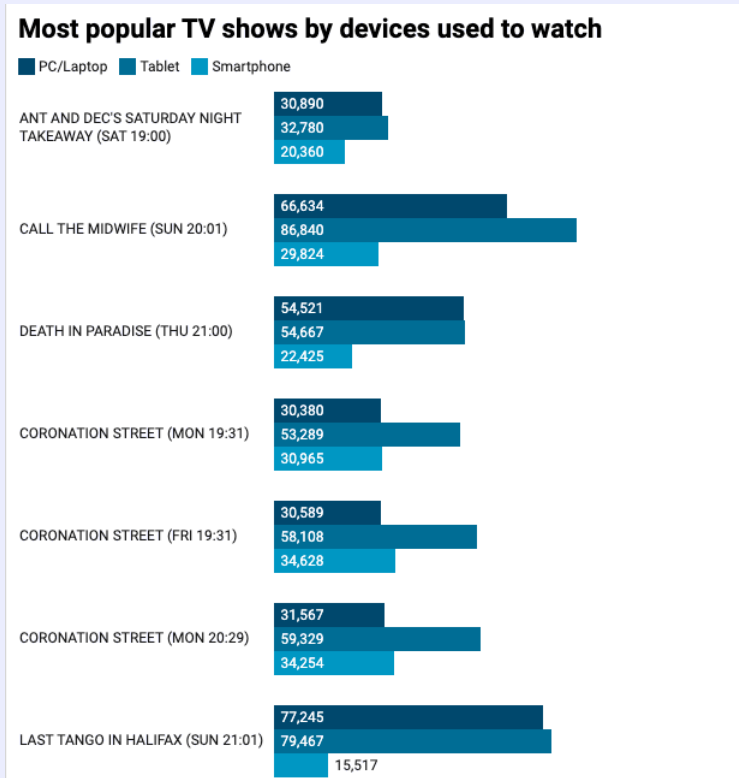
Waxaan go'aansaday inaan isticmaalo nooca jaantuska (grouped bars chart) sababtoo ah wuxuu muujiyay tirooyinka daawashada (viewing figures) ee noocyada kala duwan ee qalabka (devices) qaab fudud oo la fahmi karo.

Waxaan sidoo kale ka saaray tiirka Rank (Rank column) ee muujinta xogta (data visualisation) maxaa yeelay ma ahayn mid waxtar u ah muujinta macluumaadka aan xiiseynayay.



Muujinta xogta (visualisation) waxay i siisay fikrado (insights) soo socda:

- Ant iyo Dec's Saturday Night Takeaway wuxuu ahaa barnaamijka ugu caansan
- Tablet-yada (Tablets) ayaa ahaa qalabka (devices) ugu caansan (marka laga reebo TV-yada) ee loo isticmaalo daawashada.
- Tani waxay u badan tahay sababtoo ah waxay leeyihiin dheelitirka wanaagsan ee la qaadi karo iyo cabbirka shaashadda.



Sayniska xogta (data science) waa soo saarista macnaha (meaning) ee xogta (data) weyn si loo helo fikrado (insights) oo taageera go'aan qaadashada (decision making).

Muujinta xogta (data visualisations) waa matalaad muuqaal ah oo xogta (data) ah sida jaantusyada (charts) iyo garaafyada (graphs).

Infographics-ka (Infographics) waa matalaad muuqaal ah oo xogta (data) ah, oo inta badan ku lug leh sawiro muujinaya qaababka (patterns) iyo ka caawiya sheeko sheegista.

Qaar ka mid ah qalabka internetka (online tools) ayaa loo isticmaali karaa in lagu abuuro muujinta xogta (data visualisations).