

U tube comment analysis

August 31, 2024

```
[1]: !pip install nbconvert
```

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Requirement already satisfied: nbconvert in /usr/local/lib/python3.10/dist-packages (6.5.4)
Requirement already satisfied: lxml in /usr/local/lib/python3.10/dist-packages (from nbconvert) (4.9.4)
Requirement already satisfied: beautifulsoup4 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (4.12.3)
Requirement already satisfied: bleach in /usr/local/lib/python3.10/dist-packages (from nbconvert) (6.1.0)
Requirement already satisfied: defusedxml in /usr/local/lib/python3.10/dist-packages (from nbconvert) (0.7.1)
Requirement already satisfied: entrypoints>=0.2.2 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (0.4)
Requirement already satisfied: Jinja2>=3.0 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (3.1.4)
Requirement already satisfied: jupyter-core>=4.7 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (5.7.2)
Requirement already satisfied: jupyterlab-pygments in /usr/local/lib/python3.10/dist-packages (from nbconvert) (0.3.0)
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (2.1.5)
Requirement already satisfied: mistune<2,>=0.8.1 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (0.8.4)
Requirement already satisfied: nbclient>=0.5.0 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (0.10.0)
Requirement already satisfied: nbformat>=5.1 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (5.10.4)
Requirement already satisfied: packaging in /usr/local/lib/python3.10/dist-packages (from nbconvert) (24.1)
Requirement already satisfied: pandocfilters>=1.4.1 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (1.5.1)
Requirement already satisfied: pygments>=2.4.1 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (2.16.1)
Requirement already satisfied: tinycss2 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (1.3.0)
Requirement already satisfied: traitlets>=5.0 in /usr/local/lib/python3.10/dist-packages (from nbconvert) (5.7.1)
```

Requirement already satisfied: platformdirs>=2.5 in /usr/local/lib/python3.10/dist-packages (from jupyter-core>=4.7->nbconvert) (4.2.2)

Requirement already satisfied: jupyter-client>=6.1.12 in /usr/local/lib/python3.10/dist-packages (from nbclient>=0.5.0->nbconvert) (6.1.12)

Requirement already satisfied: fastjsonschema>=2.15 in /usr/local/lib/python3.10/dist-packages (from nbformat>=5.1->nbconvert) (2.20.0)

Requirement already satisfied: jsonschema>=2.6 in /usr/local/lib/python3.10/dist-packages (from nbformat>=5.1->nbconvert) (4.23.0)

Requirement already satisfied: soupsieve>1.2 in /usr/local/lib/python3.10/dist-packages (from beautifulsoup4->nbconvert) (2.6)

Requirement already satisfied: six>=1.9.0 in /usr/local/lib/python3.10/dist-packages (from bleach->nbconvert) (1.16.0)

Requirement already satisfied: webencodings in /usr/local/lib/python3.10/dist-packages (from bleach->nbconvert) (0.5.1)

Requirement already satisfied: attrs>=22.2.0 in /usr/local/lib/python3.10/dist-packages (from jsonschema>=2.6->nbformat>=5.1->nbconvert) (24.2.0)

Requirement already satisfied: jsonschema-specifications>=2023.03.6 in /usr/local/lib/python3.10/dist-packages (from jsonschema>=2.6->nbformat>=5.1->nbconvert) (2023.12.1)

Requirement already satisfied: referencing>=0.28.4 in /usr/local/lib/python3.10/dist-packages (from jsonschema>=2.6->nbformat>=5.1->nbconvert) (0.35.1)

Requirement already satisfied: rpds-py>=0.7.1 in /usr/local/lib/python3.10/dist-packages (from jsonschema>=2.6->nbformat>=5.1->nbconvert) (0.20.0)

Requirement already satisfied: pyzmq>=13 in /usr/local/lib/python3.10/dist-packages (from jupyter-client>=6.1.12->nbclient>=0.5.0->nbconvert) (24.0.1)

Requirement already satisfied: python-dateutil>=2.1 in /usr/local/lib/python3.10/dist-packages (from jupyter-client>=6.1.12->nbclient>=0.5.0->nbconvert) (2.8.2)

Requirement already satisfied: tornado>=4.1 in /usr/local/lib/python3.10/dist-packages (from jupyter-client>=6.1.12->nbclient>=0.5.0->nbconvert) (6.3.3)

```
[2]: !apt-get install texlive texlive-xetex texlive-latex-extra pandoc
```

```
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  dvipng fonts-droid-fallback fonts-lato fonts-lmodern fonts-noto-mono fonts-
texgyre
  fonts-urw-base35 libapache-pom-java libcbmark-gfm-extensions0.29.0.gfm.3
libcbmark-gfm0.29.0.gfm.3
  libcommons-logging-java libcommons-parent-java libfontbox-java libfontenc1
libgs9 libgs9-common
  libidn12 libijs-0.35 libjbig2dec0 libkpathsea6 libpdfbox-java libptexenc1
libruby3.0 libsynchronet2
```

```

libteckit0 libtexlua53 libtexluajit2 libwoff1 libzip-0-13 lmodern pandoc-data
poppler-data
  preview-latex-style rake ruby ruby-net-telnet ruby-rubygems ruby-webrick ruby-
xmlrpc ruby3.0
  rubygems-integration tlutils teckit tex-common tex-gyre texlive-base texlive-
binaries
  texlive-fonts-recommended texlive-latex-base texlive-latex-recommended
texlive-pictures
  texlive-plain-generic tipa xfonts-encodings xfonts-utils
Suggested packages:
  fonts-noto fonts-freefont-otf | fonts-freefont-ttf libavalon-framework-java
  libcommons-logging-java-doc libexcalibur-logkit-java liblog4j1.2-java texlive-
luatex
  pandoc-citeproc context wkhtmltopdf librsvg2-bin groff ghc nodejs php python
libjs-mathjax
  libjs-katex citation-style-language-styles poppler-utils ghostscript fonts-
japanese-mincho
  | fonts-ipafont-mincho fonts-japanese-gothic | fonts-ipafont-gothic fonts-
arphic-ukai
  fonts-arphic-uming fonts-nanum ri ruby-dev bundler debhelper gv | postscript-
viewer perl-tk xpdf
  | pdf-viewer xzdec texlive-fonts-recommended-doc texlive-latex-base-doc
python3-pygments
  icc-profiles libfile-which-perl libspreadsheet-parseexcel-perl texlive-latex-
extra-doc
  texlive-latex-recommended-doc texlive-pstricks dot2tex prerex texlive-
pictures-doc vprerex
  default-jre-headless tipa-doc
The following NEW packages will be installed:
  dvisvgm fonts-droid-fallback fonts-lato fonts-lmodern fonts-noto-mono fonts-
texgyre
  fonts-urw-base35 libapache-pom-java libcmrmark-gfm-extensions0.29.0.gfm.3
libcmrmark-gfm0.29.0.gfm.3
  libcommons-logging-java libcommons-parent-java libfontbox-java libfontenc1
libgs9 libgs9-common
  libidn12 libijs-0.35 libjbig2dec0 libkpathsea6 libpdfbox-java libptexenc1
libruby3.0 libsyncTeX2
  libteckit0 libtexlua53 libtexluajit2 libwoff1 libzip-0-13 lmodern pandoc
pandoc-data
  poppler-data preview-latex-style rake ruby ruby-net-telnet ruby-rubygems ruby-
webrick ruby-xmlrpc
  ruby3.0 rubygems-integration tlutils teckit tex-common tex-gyre texlive
texlive-base
  texlive-binaries texlive-fonts-recommended texlive-latex-base texlive-latex-
extra
  texlive-latex-recommended texlive-pictures texlive-plain-generic texlive-xetex
tipa
  xfonts-encodings xfonts-utils

```

0 upgraded, 59 newly installed, 0 to remove and 49 not upgraded.
 Need to get 202 MB of archives.
 After this operation, 728 MB of additional disk space will be used.

Get:1 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 fonts-droid-fallback all 1:6.0.1r16-1.1build1 [1,805 kB]
 Get:2 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 fonts-lato all 2.0-2.1 [2,696 kB]
 Get:3 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 poppler-data all 0.4.11-1 [2,171 kB]
 Get:4 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 tex-common all 6.17 [33.7 kB]
 Get:5 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 fonts-urw-base35 all 20200910-1 [6,367 kB]
 Get:6 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libgs9-common all 9.55.0~dfsg1-0ubuntu5.9 [752 kB]
 Get:7 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libidn12 amd64 1.38-4ubuntu1 [60.0 kB]
 Get:8 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 libijs-0.35 amd64 0.35-15build2 [16.5 kB]
 Get:9 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 libjbig2dec0 amd64 0.19-3build2 [64.7 kB]
 Get:10 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libgs9 amd64 9.55.0~dfsg1-0ubuntu5.9 [5,033 kB]
 Get:11 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libkpathsea6 amd64 2021.20210626.59705-1ubuntu0.2 [60.4 kB]
 Get:12 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 libwoff1 amd64 1.0.2-1build4 [45.2 kB]
 Get:13 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 dvisvgm amd64 2.13.1-1 [1,221 kB]
 Get:14 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 fonts-lmodern all 2.004.5-6.1 [4,532 kB]
 Get:15 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 fonts-noto-mono all 20201225-1build1 [397 kB]
 Get:16 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 fonts-texgyre all 20180621-3.1 [10.2 MB]
 Get:17 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 libapache-pom-java all 18-1 [4,720 B]
 Get:18 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 libcmark-gfm0.29.0.gfm.3 amd64 0.29.0.gfm.3-3 [115 kB]
 Get:19 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 libcmark-gfm-extensions0.29.0.gfm.3 amd64 0.29.0.gfm.3-3 [25.1 kB]
 Get:20 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 libcommons-parent-java all 43-1 [10.8 kB]
 Get:21 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 libcommons-logging-java all 1.2-2 [60.3 kB]
 Get:22 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 libfontenc1 amd64 1:1.1.4-1build3 [14.7 kB]
 Get:23 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libptexenc1

amd64 2021.20210626.59705-1ubuntu0.2 [39.1 kB]
 Get:24 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 rubygems-integration
 all 1.18 [5,336 B]
 Get:25 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 ruby3.0 amd64
 3.0.2-7ubuntu2.7 [50.1 kB]
 Get:26 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 ruby-rubygems all
 3.3.5-2 [228 kB]
 Get:27 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 ruby amd64 1:3.0~exp1
 [5,100 B]
 Get:28 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 rake all 13.0.6-2 [61.7
 kB]
 Get:29 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 ruby-net-telnet all
 0.1.1-2 [12.6 kB]
 Get:30 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 ruby-webrick all
 1.7.0-3 [51.8 kB]
 Get:31 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 ruby-xmlrpc all
 0.3.2-1ubuntu0.1 [24.9 kB]
 Get:32 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libruby3.0
 amd64 3.0.2-7ubuntu2.7 [5,113 kB]
 Get:33 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libsynctex2
 amd64 2021.20210626.59705-1ubuntu0.2 [55.6 kB]
 Get:34 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 libteckit0 amd64
 2.5.11+ds1-1 [421 kB]
 Get:35 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libtexlua53
 amd64 2021.20210626.59705-1ubuntu0.2 [120 kB]
 Get:36 <http://archive.ubuntu.com/ubuntu> jammy-updates/main amd64 libtexluajit2
 amd64 2021.20210626.59705-1ubuntu0.2 [267 kB]
 Get:37 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 libzip-0-13 amd64
 0.13.72+dfsg.1-1.1 [27.0 kB]
 Get:38 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 xfonts-encodings all
 1:1.0.5-0ubuntu2 [578 kB]
 Get:39 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 xfonts-utils amd64
 1:7.7+6build2 [94.6 kB]
 Get:40 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 lmodern all
 2.004.5-6.1 [9,471 kB]
 Get:41 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 pandoc-data all
 2.9.2.1-3ubuntu2 [81.8 kB]
 Get:42 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 pandoc amd64
 2.9.2.1-3ubuntu2 [20.3 MB]
 Get:43 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 preview-latex-style
 all 12.2-1ubuntu1 [185 kB]
 Get:44 <http://archive.ubuntu.com/ubuntu> jammy/main amd64 t1utils amd64
 1.41-4build2 [61.3 kB]
 Get:45 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 teckit amd64
 2.5.11+ds1-1 [699 kB]
 Get:46 <http://archive.ubuntu.com/ubuntu> jammy/universe amd64 tex-gyre all
 20180621-3.1 [6,209 kB]
 Get:47 <http://archive.ubuntu.com/ubuntu> jammy-updates/universe amd64 texlive-

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binaries amd64 2021.20210626.59705-1ubuntu0.2 [9,860 kB]
Get:48 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive-base all
2021.20220204-1 [21.0 MB]
Get:49 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive-fonts-
recommended all 2021.20220204-1 [4,972 kB]
Get:50 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive-latex-base
all 2021.20220204-1 [1,128 kB]
Get:51 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive-latex-
recommended all 2021.20220204-1 [14.4 MB]
Get:52 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive all
2021.20220204-1 [14.3 kB]
Get:53 http://archive.ubuntu.com/ubuntu jammy/universe amd64 libfontbox-java all
1:1.8.16-2 [207 kB]
Get:54 http://archive.ubuntu.com/ubuntu jammy/universe amd64 libpdfbox-java all
1:1.8.16-2 [5,199 kB]
Get:55 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive-pictures
all 2021.20220204-1 [8,720 kB]
Get:56 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive-latex-extra
all 2021.20220204-1 [13.9 MB]
Get:57 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive-plain-
generic all 2021.20220204-1 [27.5 MB]
Get:58 http://archive.ubuntu.com/ubuntu jammy/universe amd64 tipa all 2:1.3-21
[2,967 kB]
Get:59 http://archive.ubuntu.com/ubuntu jammy/universe amd64 texlive-xetex all
2021.20220204-1 [12.4 MB]
Fetched 202 MB in 3s (77.9 MB/s)
Extracting templates from packages: 100%
Preconfiguring packages ...
Selecting previously unselected package fonts-droid-fallback.
(Reading database ... 123597 files and directories currently installed.)
Preparing to unpack .../00-fonts-droid-fallback_1%3a6.0.1r16-1.1build1_all.deb
...
Unpacking fonts-droid-fallback (1:6.0.1r16-1.1build1) ...
Selecting previously unselected package fonts-lato.
Preparing to unpack .../01-fonts-lato_2.0-2.1_all.deb ...
Unpacking fonts-lato (2.0-2.1) ...
Selecting previously unselected package poppler-data.
Preparing to unpack .../02-poppler-data_0.4.11-1_all.deb ...
Unpacking poppler-data (0.4.11-1) ...
Selecting previously unselected package tex-common.
Preparing to unpack .../03-tex-common_6.17_all.deb ...
Unpacking tex-common (6.17) ...
Selecting previously unselected package fonts-urw-base35.
Preparing to unpack .../04-fonts-urw-base35_20200910-1_all.deb ...
Unpacking fonts-urw-base35 (20200910-1) ...
Selecting previously unselected package libgs9-common.
Preparing to unpack .../05-libgs9-common_9.55.0~dfsg1-0ubuntu5.9_all.deb ...
Unpacking libgs9-common (9.55.0~dfsg1-0ubuntu5.9) ...

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Selecting previously unselected package libidn12:amd64.
Preparing to unpack .../06-libidn12_1.38-4ubuntu1_amd64.deb ...
Unpacking libidn12:amd64 (1.38-4ubuntu1) ...
Selecting previously unselected package libijs-0.35:amd64.
Preparing to unpack .../07-libijs-0.35_0.35-15build2_amd64.deb ...
Unpacking libijs-0.35:amd64 (0.35-15build2) ...
Selecting previously unselected package libjbig2dec0:amd64.
Preparing to unpack .../08-libjbig2dec0_0.19-3build2_amd64.deb ...
Unpacking libjbig2dec0:amd64 (0.19-3build2) ...
Selecting previously unselected package libgs9:amd64.
Preparing to unpack .../09-libgs9_9.55.0~dfsg1-0ubuntu5.9_amd64.deb ...
Unpacking libgs9:amd64 (9.55.0~dfsg1-0ubuntu5.9) ...
Selecting previously unselected package libkpathsea6:amd64.
Preparing to unpack .../10-libkpathsea6_2021.20210626.59705-1ubuntu0.2_amd64.deb
...
Unpacking libkpathsea6:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Selecting previously unselected package libwoff1:amd64.
Preparing to unpack .../11-libwoff1_1.0.2-1build4_amd64.deb ...
Unpacking libwoff1:amd64 (1.0.2-1build4) ...
Selecting previously unselected package dvisvgm.
Preparing to unpack .../12-dvisvgm_2.13.1-1_amd64.deb ...
Unpacking dvisvgm (2.13.1-1) ...
Selecting previously unselected package fonts-lmodern.
Preparing to unpack .../13-fonts-lmodern_2.004.5-6.1_all.deb ...
Unpacking fonts-lmodern (2.004.5-6.1) ...
Selecting previously unselected package fonts-noto-mono.
Preparing to unpack .../14-fonts-noto-mono_20201225-1build1_all.deb ...
Unpacking fonts-noto-mono (20201225-1build1) ...
Selecting previously unselected package fonts-texgyre.
Preparing to unpack .../15-fonts-texgyre_20180621-3.1_all.deb ...
Unpacking fonts-texgyre (20180621-3.1) ...
Selecting previously unselected package libapache-pom-java.
Preparing to unpack .../16-libapache-pom-java_18-1_all.deb ...
Unpacking libapache-pom-java (18-1) ...
Selecting previously unselected package libcmark-gfm0.29.0.gfm.3:amd64.
Preparing to unpack .../17-libcmark-gfm0.29.0.gfm.3_0.29.0.gfm.3-3_amd64.deb ...
Unpacking libcmark-gfm0.29.0.gfm.3:amd64 (0.29.0.gfm.3-3) ...
Selecting previously unselected package libcmark-gfm-
extensions0.29.0.gfm.3:amd64.
Preparing to unpack .../18-libcmark-gfm-
extensions0.29.0.gfm.3_0.29.0.gfm.3-3_amd64.deb ...
Unpacking libcmark-gfm-extensions0.29.0.gfm.3:amd64 (0.29.0.gfm.3-3) ...
Selecting previously unselected package libcommons-parent-java.
Preparing to unpack .../19-libcommons-parent-java_43-1_all.deb ...
Unpacking libcommons-parent-java (43-1) ...
Selecting previously unselected package libcommons-logging-java.
Preparing to unpack .../20-libcommons-logging-java_1.2-2_all.deb ...
Unpacking libcommons-logging-java (1.2-2) ...

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Selecting previously unselected package libfontenc1:amd64.
Preparing to unpack .../21-libfontenc1_1%3a1.1.4-1build3_amd64.deb ...
Unpacking libfontenc1:amd64 (1:1.1.4-1build3) ...
Selecting previously unselected package libptexenc1:amd64.
Preparing to unpack .../22-libptexenc1_2021.20210626.59705-1ubuntu0.2_amd64.deb
...
Unpacking libptexenc1:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Selecting previously unselected package rubygems-integration.
Preparing to unpack .../23-rubygems-integration_1.18_all.deb ...
Unpacking rubygems-integration (1.18) ...
Selecting previously unselected package ruby3.0.
Preparing to unpack .../24-ruby3.0_3.0.2-7ubuntu2.7_amd64.deb ...
Unpacking ruby3.0 (3.0.2-7ubuntu2.7) ...
Selecting previously unselected package ruby-rubygems.
Preparing to unpack .../25-ruby-rubygems_3.3.5-2_all.deb ...
Unpacking ruby-rubygems (3.3.5-2) ...
Selecting previously unselected package ruby.
Preparing to unpack .../26-ruby_1%3a3.0~exp1_amd64.deb ...
Unpacking ruby (1:3.0~exp1) ...
Selecting previously unselected package rake.
Preparing to unpack .../27-rake_13.0.6-2_all.deb ...
Unpacking rake (13.0.6-2) ...
Selecting previously unselected package ruby-net-telnet.
Preparing to unpack .../28-ruby-net-telnet_0.1.1-2_all.deb ...
Unpacking ruby-net-telnet (0.1.1-2) ...
Selecting previously unselected package ruby-webrick.
Preparing to unpack .../29-ruby-webrick_1.7.0-3_all.deb ...
Unpacking ruby-webrick (1.7.0-3) ...
Selecting previously unselected package ruby-xmlrpc.
Preparing to unpack .../30-ruby-xmlrpc_0.3.2-1ubuntu0.1_all.deb ...
Unpacking ruby-xmlrpc (0.3.2-1ubuntu0.1) ...
Selecting previously unselected package libruby3.0:amd64.
Preparing to unpack .../31-libruby3.0_3.0.2-7ubuntu2.7_amd64.deb ...
Unpacking libruby3.0:amd64 (3.0.2-7ubuntu2.7) ...
Selecting previously unselected package libsyntax2:amd64.
Preparing to unpack .../32-libsyntax2_2021.20210626.59705-1ubuntu0.2_amd64.deb
...
Unpacking libsyntax2:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Selecting previously unselected package libteckit0:amd64.
Preparing to unpack .../33-libteckit0_2.5.11+ds1-1_amd64.deb ...
Unpacking libteckit0:amd64 (2.5.11+ds1-1) ...
Selecting previously unselected package libtexlua53:amd64.
Preparing to unpack .../34-libtexlua53_2021.20210626.59705-1ubuntu0.2_amd64.deb
...
Unpacking libtexlua53:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Selecting previously unselected package libtexluaajit2:amd64.
Preparing to unpack
.../35-libtexluaajit2_2021.20210626.59705-1ubuntu0.2_amd64.deb ...

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Unpacking libtexluajit2:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Selecting previously unselected package libzzip-0-13:amd64.
Preparing to unpack .../36-libzzip-0-13_0.13.72+dfsg.1-1.1_amd64.deb ...
Unpacking libzzip-0-13:amd64 (0.13.72+dfsg.1-1.1) ...
Selecting previously unselected package xfonts-encodings.
Preparing to unpack .../37-xfonts-encodings_1%3a1.0.5-0ubuntu2_all.deb ...
Unpacking xfonts-encodings (1:1.0.5-0ubuntu2) ...
Selecting previously unselected package xfonts-utils.
Preparing to unpack .../38-xfonts-utils_1%3a7.7+6build2_amd64.deb ...
Unpacking xfonts-utils (1:7.7+6build2) ...
Selecting previously unselected package lmodern.
Preparing to unpack .../39-lmodern_2.004.5-6.1_all.deb ...
Unpacking lmodern (2.004.5-6.1) ...
Selecting previously unselected package pandoc-data.
Preparing to unpack .../40-pandoc-data_2.9.2.1-3ubuntu2_all.deb ...
Unpacking pandoc-data (2.9.2.1-3ubuntu2) ...
Selecting previously unselected package pandoc.
Preparing to unpack .../41-pandoc_2.9.2.1-3ubuntu2_amd64.deb ...
Unpacking pandoc (2.9.2.1-3ubuntu2) ...
Selecting previously unselected package preview-latex-style.
Preparing to unpack .../42-preview-latex-style_12.2-1ubuntu1_all.deb ...
Unpacking preview-latex-style (12.2-1ubuntu1) ...
Selecting previously unselected package t1utils.
Preparing to unpack .../43-t1utils_1.41-4build2_amd64.deb ...
Unpacking t1utils (1.41-4build2) ...
Selecting previously unselected package teckit.
Preparing to unpack .../44-teckit_2.5.11+ds1-1_amd64.deb ...
Unpacking teckit (2.5.11+ds1-1) ...
Selecting previously unselected package tex-gyre.
Preparing to unpack .../45-tex-gyre_20180621-3.1_all.deb ...
Unpacking tex-gyre (20180621-3.1) ...
Selecting previously unselected package texlive-binaries.
Preparing to unpack .../46-texlive-
binaries_2021.20210626.59705-1ubuntu0.2_amd64.deb ...
Unpacking texlive-binaries (2021.20210626.59705-1ubuntu0.2) ...
Selecting previously unselected package texlive-base.
Preparing to unpack .../47-texlive-base_2021.20220204-1_all.deb ...
Unpacking texlive-base (2021.20220204-1) ...
Selecting previously unselected package texlive-fonts-recommended.
Preparing to unpack .../48-texlive-fonts-recommended_2021.20220204-1_all.deb ...
Unpacking texlive-fonts-recommended (2021.20220204-1) ...
Selecting previously unselected package texlive-latex-base.
Preparing to unpack .../49-texlive-latex-base_2021.20220204-1_all.deb ...
Unpacking texlive-latex-base (2021.20220204-1) ...
Selecting previously unselected package texlive-latex-recommended.
Preparing to unpack .../50-texlive-latex-recommended_2021.20220204-1_all.deb ...
Unpacking texlive-latex-recommended (2021.20220204-1) ...
Selecting previously unselected package texlive.

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Preparing to unpack .../51-texlive_2021.20220204-1_all.deb ...
Unpacking texlive (2021.20220204-1) ...
Selecting previously unselected package libfontbox-java.
Preparing to unpack .../52-libfontbox-java_1%3a1.8.16-2_all.deb ...
Unpacking libfontbox-java (1:1.8.16-2) ...
Selecting previously unselected package libpdfbox-java.
Preparing to unpack .../53-libpdfbox-java_1%3a1.8.16-2_all.deb ...
Unpacking libpdfbox-java (1:1.8.16-2) ...
Selecting previously unselected package texlive-pictures.
Preparing to unpack .../54-texlive-pictures_2021.20220204-1_all.deb ...
Unpacking texlive-pictures (2021.20220204-1) ...
Selecting previously unselected package texlive-latex-extra.
Preparing to unpack .../55-texlive-latex-extra_2021.20220204-1_all.deb ...
Unpacking texlive-latex-extra (2021.20220204-1) ...
Selecting previously unselected package texlive-plain-generic.
Preparing to unpack .../56-texlive-plain-generic_2021.20220204-1_all.deb ...
Unpacking texlive-plain-generic (2021.20220204-1) ...
Selecting previously unselected package tipa.
Preparing to unpack .../57-tipa_2%3a1.3-21_all.deb ...
Unpacking tipa (2:1.3-21) ...
Selecting previously unselected package texlive-xetex.
Preparing to unpack .../58-texlive-xetex_2021.20220204-1_all.deb ...
Unpacking texlive-xetex (2021.20220204-1) ...
Setting up fonts-lato (2.0-2.1) ...
Setting up fonts-noto-mono (20201225-1build1) ...
Setting up libwoff1:amd64 (1.0.2-1build4) ...
Setting up libtexlua53:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Setting up libijs-0.35:amd64 (0.35-15build2) ...
Setting up libtexluajit2:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Setting up libfontbox-java (1:1.8.16-2) ...
Setting up rubygems-integration (1.18) ...
Setting up libzzip-0-13:amd64 (0.13.72+dfsg.1-1.1) ...
Setting up fonts-urw-base35 (20200910-1) ...
Setting up poppler-data (0.4.11-1) ...
Setting up tex-common (6.17) ...
update-language: texlive-base not installed and configured, doing nothing!
Setting up libfontenc1:amd64 (1:1.1.4-1build3) ...
Setting up libjbig2dec0:amd64 (0.19-3build2) ...
Setting up libteckit0:amd64 (2.5.11+ds1-1) ...
Setting up libapache-pom-java (18-1) ...
Setting up ruby-net-telnet (0.1.1-2) ...
Setting up xfonts-encodings (1:1.0.5-0ubuntu2) ...
Setting up t1utils (1.41-4build2) ...
Setting up libidn12:amd64 (1.38-4ubuntu1) ...
Setting up fonts-texgyre (20180621-3.1) ...
Setting up libkpathsea6:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Setting up ruby-webrick (1.7.0-3) ...
Setting up libcmark-gfm0.29.0.gfm.3:amd64 (0.29.0.gfm.3-3) ...

```

```

Setting up fonts-lmodern (2.004.5-6.1) ...
Setting up libcmrmark-gfm-extensions0.29.0.gfm.3:amd64 (0.29.0.gfm.3-3) ...
Setting up fonts-droid-fallback (1:6.0.1r16-1.1build1) ...
Setting up pandoc-data (2.9.2.1-3ubuntu2) ...
Setting up ruby-xmlrpc (0.3.2-1ubuntu0.1) ...
Setting up libsynctex2:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Setting up libgs9-common (9.55.0~dfsg1-0ubuntu5.9) ...
Setting up teckit (2.5.11+ds1-1) ...
Setting up libpdfbox-java (1:1.8.16-2) ...
Setting up libgs9:amd64 (9.55.0~dfsg1-0ubuntu5.9) ...
Setting up preview-latex-style (12.2-1ubuntu1) ...
Setting up libcommons-parent-java (43-1) ...
Setting up dvisvgm (2.13.1-1) ...
Setting up libcommons-logging-java (1.2-2) ...
Setting up xfonts-utils (1:7.7+6build2) ...
Setting up libptexenc1:amd64 (2021.20210626.59705-1ubuntu0.2) ...
Setting up pandoc (2.9.2.1-3ubuntu2) ...
Setting up texlive-binaries (2021.20210626.59705-1ubuntu0.2) ...
update-alternatives: using /usr/bin/xdvi-xaw to provide /usr/bin/xdvi.bin
(xdvi.bin) in auto mode
update-alternatives: using /usr/bin/bibtex.original to provide /usr/bin/bibtex
(bibtex) in auto mode
Setting up lmodern (2.004.5-6.1) ...
Setting up texlive-base (2021.20220204-1) ...
/usr/bin/ucfr
/usr/bin/ucfr
/usr/bin/ucfr
/usr/bin/ucfr
mktexlsr: Updating /var/lib/texmf/ls-R-TEXLIVEDIST...
mktexlsr: Updating /var/lib/texmf/ls-R-TEXMFMAIN...
mktexlsr: Updating /var/lib/texmf/ls-R...
mktexlsr: Done.
tl-paper: setting paper size for dvips to a4:
/var/lib/texmf/dvips/config/config-paper.ps
tl-paper: setting paper size for dvipdfmx to a4:
/var/lib/texmf/dvipdfmx/dvipdfmx-paper.cfg
tl-paper: setting paper size for xdvi to a4: /var/lib/texmf/xdvi/XDvi-paper
tl-paper: setting paper size for pdftex to a4: /var/lib/texmf/tex/generic/tex-
ini-files/pdftexconfig.tex
Setting up tex-gyre (20180621-3.1) ...
Setting up texlive-plain-generic (2021.20220204-1) ...
Setting up texlive-latex-base (2021.20220204-1) ...
Setting up texlive-latex-recommended (2021.20220204-1) ...
Setting up texlive-pictures (2021.20220204-1) ...
Setting up texlive-fonts-recommended (2021.20220204-1) ...
Setting up tipa (2:1.3-21) ...
Setting up texlive (2021.20220204-1) ...
Setting up texlive-latex-extra (2021.20220204-1) ...

```

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Setting up texlive-xetex (2021.20220204-1) ...
Setting up rake (13.0.6-2) ...
Setting up libruby3.0:amd64 (3.0.2-7ubuntu2.7) ...
Setting up ruby3.0 (3.0.2-7ubuntu2.7) ...
Setting up ruby (1:3.0~exp1) ...
Setting up ruby-rubygems (3.3.5-2) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for fontconfig (2.13.1-4.2ubuntu5) ...
Processing triggers for libc-bin (2.35-0ubuntu3.4) ...
/sbin/ldconfig.real: /usr/local/lib/libur_loader.so.0 is not a symbolic link

/sbin/ldconfig.real: /usr/local/lib/libtbbmalloc_proxy.so.2 is not a symbolic
link

/sbin/ldconfig.real: /usr/local/lib/libtbbbind.so.3 is not a symbolic link

/sbin/ldconfig.real: /usr/local/lib/libtbbbind_2_0.so.3 is not a symbolic link

/sbin/ldconfig.real: /usr/local/lib/libur_adapter_level_zero.so.0 is not a
symbolic link

/sbin/ldconfig.real: /usr/local/lib/libtbbmalloc.so.2 is not a symbolic link

/sbin/ldconfig.real: /usr/local/lib/libtbb.so.12 is not a symbolic link

/sbin/ldconfig.real: /usr/local/lib/libur_adapter_opencl.so.0 is not a symbolic
link

/sbin/ldconfig.real: /usr/local/lib/libtbbbind_2_5.so.3 is not a symbolic link

Processing triggers for tex-common (6.17) ...
Running updmap-sys. This may take some time... done.
Running mktexlsr /var/lib/texmf ... done.
Building format(s) --all.
    This may take some time... done.

```

```
[7]: !jupyter nbconvert --to pdf <U tube comment analysis>.ipynb
```

```
/bin/bash: line 1: /content/drive/MyDrive/Colab: No such file or directory
```

```
[5]: from google.colab import drive
drive.mount("/content/drive")
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call
drive.mount("/content/drive", force_remount=True).
```

```
[8]: jupyter nbconvert --to pdf --output <U tube comment analysis>.pdf
↳ <notebook-name>.ipynb
```

```
File "<ipython-input-8-823b6ec71ed6>", line 1
    jupyter nbconvert --to pdf --output <U tube comment analysis>.pdf
↪<notebook-name>.ipynb
    ^
SyntaxError: invalid syntax
```

```
[ ]: !pip install emoji
      !pip install vaderSentiment
```

```
Collecting emoji
  Downloading emoji-2.12.1-py3-none-any.whl (431 kB)
    431.4/431.4

kB 7.5 MB/s eta 0:00:00
Requirement already satisfied: typing-extensions>=4.7.0 in
/usr/local/lib/python3.10/dist-packages (from emoji) (4.12.2)
Installing collected packages: emoji
Successfully installed emoji-2.12.1
Collecting vaderSentiment
  Downloading vaderSentiment-3.3.2-py2.py3-none-any.whl (125 kB)
    126.0/126.0
```

```
kB 3.9 MB/s eta 0:00:00
Requirement already satisfied: requests in /usr/local/lib/python3.10/dist-
packages (from vaderSentiment) (2.31.0)
Requirement already satisfied: charset-normalizer<4,>=2 in
/usr/local/lib/python3.10/dist-packages (from requests->vaderSentiment) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-
packages (from requests->vaderSentiment) (3.7)
Requirement already satisfied: urllib3<3,>=1.21.1 in
/usr/local/lib/python3.10/dist-packages (from requests->vaderSentiment) (2.0.7)
Requirement already satisfied: certifi>=2017.4.17 in
/usr/local/lib/python3.10/dist-packages (from requests->vaderSentiment)
(2024.6.2)
Installing collected packages: vaderSentiment
Successfully installed vaderSentiment-3.3.2
```

```
[ ]: !pip install google-api-python-client
```

```
Requirement already satisfied: google-api-python-client in
/usr/local/lib/python3.10/dist-packages (2.84.0)
Requirement already satisfied: httplib2<1dev,>=0.15.0 in
/usr/local/lib/python3.10/dist-packages (from google-api-python-client) (0.22.0)
Requirement already satisfied: google-auth<3.0.0dev,>=1.19.0 in
/usr/local/lib/python3.10/dist-packages (from google-api-python-client) (2.27.0)
Requirement already satisfied: google-auth-httplib2>=0.1.0 in
```

```

/usr/local/lib/python3.10/dist-packages (from google-api-python-client) (0.1.1)
Requirement already satisfied: google-api-
core!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.0,<3.0.0dev,>=1.31.5 in
/usr/local/lib/python3.10/dist-packages (from google-api-python-client) (2.11.1)
Requirement already satisfied: uritemplate<5,>=3.0.1 in
/usr/local/lib/python3.10/dist-packages (from google-api-python-client) (4.1.1)
Requirement already satisfied: googleapis-common-protos<2.0.dev0,>=1.56.2 in
/usr/local/lib/python3.10/dist-packages (from google-api-
core!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.0,<3.0.0dev,>=1.31.5->google-api-python-
client) (1.63.1)
Requirement already satisfied: protobuf!=3.20.0,!=3.20.1,!=4.21.0,!=4.21.1,!=4.2
1.2,!=4.21.3,!=4.21.4,!=4.21.5,<5.0.0.dev0,>=3.19.5 in
/usr/local/lib/python3.10/dist-packages (from google-api-
core!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.0,<3.0.0dev,>=1.31.5->google-api-python-
client) (3.20.3)
Requirement already satisfied: requests<3.0.0.dev0,>=2.18.0 in
/usr/local/lib/python3.10/dist-packages (from google-api-
core!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.0,<3.0.0dev,>=1.31.5->google-api-python-
client) (2.31.0)
Requirement already satisfied: cachetools<6.0,>=2.0.0 in
/usr/local/lib/python3.10/dist-packages (from google-
auth<3.0.0dev,>=1.19.0->google-api-python-client) (5.3.3)
Requirement already satisfied: pyasn1-modules>=0.2.1 in
/usr/local/lib/python3.10/dist-packages (from google-
auth<3.0.0dev,>=1.19.0->google-api-python-client) (0.4.0)
Requirement already satisfied: rsa<5,>=3.1.4 in /usr/local/lib/python3.10/dist-
packages (from google-auth<3.0.0dev,>=1.19.0->google-api-python-client) (4.9)
Requirement already satisfied:
pyparsing!=3.0.0,!=3.0.1,!=3.0.2,!=3.0.3,<4,>=2.4.2 in
/usr/local/lib/python3.10/dist-packages (from httplib2<1dev,>=0.15.0->google-
api-python-client) (3.1.2)
Requirement already satisfied: pyasn1<0.7.0,>=0.4.6 in
/usr/local/lib/python3.10/dist-packages (from pyasn1-modules>=0.2.1->google-
auth<3.0.0dev,>=1.19.0->google-api-python-client) (0.6.0)
Requirement already satisfied: charset-normalizer<4,>=2 in
/usr/local/lib/python3.10/dist-packages (from
requests<3.0.0.dev0,>=2.18.0->google-api-
core!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.0,<3.0.0dev,>=1.31.5->google-api-python-
client) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-
packages (from requests<3.0.0.dev0,>=2.18.0->google-api-
core!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.0,<3.0.0dev,>=1.31.5->google-api-python-
client) (3.7)
Requirement already satisfied: urllib3<3,>=1.21.1 in
/usr/local/lib/python3.10/dist-packages (from
requests<3.0.0.dev0,>=2.18.0->google-api-
core!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.0,<3.0.0dev,>=1.31.5->google-api-python-
client) (2.0.7)

```

Requirement already satisfied: certifi>=2017.4.17 in
/usr/local/lib/python3.10/dist-packages (from
requests<3.0.0.dev0,>=2.18.0->google-api-
core!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.0,<3.0.0dev,>=1.31.5->google-api-python-
client) (2024.6.2)

```
[ ]: #service object to interact with various google api by specifying name and its ↵  
    ↪current version  
from googleapiclient.discovery import build  
# For filtering comments  
import re  
# For filtering comments with just emojis  
import emoji  
# Analyze the sentiments of the comment  
from vaderSentiment.vaderSentiment import SentimentIntensityAnalyzer  
# For visualization  
import matplotlib.pyplot as plt
```

```
[ ]: # Make sure to put in the API KEY as it won't work otherwise  
API_KEY = 'AIzaSyCax5qfvPB6kt2VXwdz1trwUZYvGKQLoo8'# Put in your API Key  
  
youtube = build('youtube', 'v3', developerKey=API_KEY) # initializing Youtube ↵  
    ↪API  
  
# Taking input from the user and slicing for video id  
video_id = input('Enter Youtube Video URL: ')[-11:]  
print("video id: " + video_id)  
  
# Getting the channelId of the video uploader  
video_response = youtube.videos().list(  
    part='snippet',  
    id=video_id  
) .execute()  
  
# Splitting the response for channelID  
video_snippet = video_response['items'][0]['snippet']  
uploader_channel_id = video_snippet['channelId']  
print("channel id: " + uploader_channel_id)
```

Enter Youtube Video URL: <https://www.youtube.com/watch?v=usggY8tbJOY>
video id: usggY8tbJOY
channel id: UC_wIGmvdYAQLt1-U2nHV9rg

```
[ ]: # Fetch comments  
print("Fetching Comments...")  
comments = []  
nextPageToken = None
```

```

while len(comments) < 600:
    request = youtube.commentThreads().list(
        part='snippet',
        videoId=video_id,
        maxResults=100, # You can fetch up to 100 comments per request
        pageToken=nextPageToken
    )
    response = request.execute()
    for item in response['items']:
        comment = item['snippet']['topLevelComment']['snippet']
        # Check if the comment is not from the video uploader
        if comment['authorChannelId']['value'] != uploader_channel_id:
            comments.append(comment['textDisplay'])

    nextPageToken = response.get('nextPageToken')

    if not nextPageToken:
        break
# Print the 5 comments
comments[:5]

```

Fetching Comments...

```

[ ]: ['sir penngal ku mattam ille aangalku ithe amma demands iruku ',
      'Parents saying they are fearing but they don&#39;t have trust',
      'Jury system is unknown in India',
      '
      ',
      ',
      ',
      'Endha amma thadhu penpillayai ivlo strict ah vlakurangalo ...andha ponnuga
      dhan thappana mudivuku povanga']

```

```

[ ]: hyperlink_pattern = re.compile(r'http[s]?://(?:[a-zA-Z]|[0-9]|[$-_@.&+]|!
    ↪*\\(\\),]|(?:%[0-9a-fA-F][0-9a-fA-F]))+')

threshold_ratio = 0.65

relevant_comments = []

# Inside your loop that processes comments
for comment_text in comments:

    comment_text = comment_text.lower().strip()

    emojis = emoji.emoji_count(comment_text)

    # Count text characters (excluding spaces)

```



```

text_characters = len(re.sub(r'\s', '', comment_text))

if (any(char.isalnum() for char in comment_text)) and not hyperlink_pattern.
search(comment_text):
    if emojis == 0 or (text_characters / (text_characters + emojis)) >
threshold_ratio:
        relevant_comments.append(comment_text)
print(relevant_comments)

```

['sir penngal ku mattam ille aangalku ithe amma demands iruku ', 'parents saying they are fearing but they don't have trust', 'jury system is unknown in india', ' ', 'endha amma thadhu penpillayai ivlo strict ah vlakurangalo ...andha ponnuga dhan thappana mudivuku povanga', 'idhulam nala parunga kadadisila ipo irukrathavida mosamana oru family la katicoduthutu theramaya illanu solrathu. enaku therichi ivlo porupa irukra pilaya namabama irukradha patha avangala freedom a iruka mudiyatha iyalamai than pilayalum edhum mudiyathunu low a feel panavaikranga. idhu pola irukra oru ponala yar solrathayum kekavum mudiyama suyamavum illalma kadasivara independent a endha situation layup vazhamudiyama veetuku theriyama elathayum evlo organized a seiya mudiyumo avlothayum panuranga', 'nala vella en amma deivam evalo torture lam panadhu', 'parents stop your drama
in village small towns gathering crowds making scene about your girls embarrassing them. spreading gossip
parents go learn meditation \u200d, yoga to calm down .

all girls be bold be brave , face life
build all the new skills - cooking driving , money management, meditation \u200d, yoga , seva , learn new instruments etc every 5 years

becos today's age death accidents disability diseases heart attack or stroke anything can happen to parents or husband

all girls & boys must face life nomatter what happens.

nobody will come for help even when you are 30 or 40 years old

learn to live independent
education is freedom
start your own business , entrepreneurship', 'i came here because of the captoin ...yen girls la velai ku poga kudatha?', ' ', 'prevention steps to be taken wonders to be checked', 'gouvernement is not strong in law and order', 'really parents parents for girls that too mothers', ' ... ', 'as a mom i can understand', 'first of all the parents should not glorify girl's nudity. it is just a body and skin. if a girl's nude photo is out for whatever reason, nothing is lost.', ' ', ' ? ', 'aiyoo ivanoda voice, body language ellamae gopi sir madhiriyae iruku ', ' ', 'alagu petha pen pillana enum tension than', 'aangal yaarum paadhugaapillai. aangal ellaaarum mosamanavargal nu solravanga kita onnu kaekanum. indha ammaakal solrathayae unga appavo illa annano sonnaa avangala aan aadhikkavaadhi nu pattam kattringa. aana veliya vandha piragu roadla vaela illaadhu porukki evanaachu

ungala edhaachu panna avana aangeloda motha adayaalama maathuringalae. neenga bus la safe ah poringa na athu oru aan porupodu nadakrathaala thaana. neenga night cab la safe ah veetuku poringa na oru driver thannoda ethics ah follow panrathaala thaana. apram victims of crime is majority men thaana not women you can google it if you want. anyone irrespective of gender at the wrong place at the wrong time becomes a victim. our safety is our responsibility.', '

', 'mother has

no trust on her daughter. having watchman's number is too much.', 'make their living place very nice
thanks piragalathan and thiva', '

', 'na 4 yrs thania irunke.. family

cobtct ile.. support ile.. so many issues face pannirunke.. orka namma thania valambodhu namak evla kashtu vanadhalum face pannalam..', 'islam sattu mattume..idhuku theervu..islathin vidhi murai mattume pengaluku paadhugappu', '

', 'the host is

really not fit to be a host when he doesn't care about people of tamil nadu. ...', 'girls and ladies should learn self defense martial arts like karate, varmam, silambam etc etc ..carry chilli powder always..', '5.30

', 'super cute to see the amma's responses

. you can see in their eyes how much they care about their daughters . its true love', ' ...

..

...', 'indian law for ladies rapist is a

useless', ' .

 .

...
...
 .', ' .

. .

', 'enga amma na velaiku poitu 9maniku

side pora vazhila 2 km 9clock

same time 9.45 kuda agum vituku vanthu patha enga nalla thuginu itupaga enaku kadupa irukum ena porapana amma nenachipa', 'tmk vidiyal arasu', ' ,

', 'ni oru ponna peththeduththa.. nium oadharuva ma',

'lawyers have to be punished if they are found guilty by supporting criminals.', 'pg na enna pa', ' ...

 ...', ' .

.', ' \u200c .

.', 'these are normal things why make a debate on this .', ' .

!!!!!!...

.

,

.

,

.

.',

.', 'daughter age 10 years son age 7 years, now it self
 bought one 2nd hand flat in chennai by loan, if they want to study or work in
 chennai after 10 years, we will go there and accompany them.', 'amma kitta
 maratachatha ellarum pakkura mathri solittingale', 'unmai', '1000 rupees bass is
 super task this mother know well ', 'one of the powerful episodes, a complete
 perspective of a problem that women face on a daily basis in tamilnadu',
 'indha
 madhiri parents irukar varikum women's velila vara mudiyadhu', 'need to make
 the kids strong with self defense and strong self confidence', 'proceedings',
 'pretty', 'en vetla watchman warden friends ku, elathukum phone adipanga ...10
 friends num iruntha 10 perukume phone pogum', '

 but
 ', 'intha generation rendu perum job ku ponnal thaana nalathu... ', 'yes
 me also ippadithan enna ammaukuthan thriyum ponnugloda saftya pathi',
 'good
 programme ', 'so cute programe', 'raamkumar was a victim not a
 criminal', 'we should understand
 the concern of the mother.', '']

```
[ ]: f = open("ytcomments.txt", 'w', encoding='utf-8')
for idx, comment in enumerate(relevant_comments):
    f.write(str(comment)+"\n")
f.close()
print("Comments stored successfully!")
```

Comments stored successfully!

```
[ ]: def sentiment_scores(comment, polarity):

    # Creating a SentimentIntensityAnalyzer object.
    sentiment_object = SentimentIntensityAnalyzer()

    sentiment_dict = sentiment_object.polarity_scores(comment)
    polarity.append(sentiment_dict['compound'])
    print(sentiment_dict)

    return polarity

polarity = []
positive_comments = []
negative_comments = []
```

```

neutral_comments = []

f = open("ytcomments.txt", 'r', encoding='`utf-8')
print("Reading Comments...")
comments = f.readlines()
f.close()
print("Analysing Comments...")
for index, items in enumerate(comments):
    polarity = sentiment_scores(items, polarity)

    if polarity[-1] > 0.05:
        positive_comments.append(items)
    elif polarity[-1] < -0.05:
        negative_comments.append(items)
    else:
        neutral_comments.append(items)

print(polarity)

```

Reading Comments...

Analysing Comments...

```

{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.159, 'neu': 0.541, 'pos': 0.301, 'compound': 0.4767}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.03, 'neu': 0.909, 'pos': 0.061, 'compound': 0.4767}
{'neg': 0.328, 'neu': 0.672, 'pos': 0.0, 'compound': -0.5994}
{'neg': 0.103, 'neu': 0.77, 'pos': 0.127, 'compound': 0.6808}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.278, 'neu': 0.722, 'pos': 0.0, 'compound': -0.4023}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.189, 'neu': 0.432, 'pos': 0.379, 'compound': 0.8271}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.091, 'neu': 0.85, 'pos': 0.06, 'compound': -0.2584}
{'neg': 0.091, 'neu': 0.909, 'pos': 0.0, 'compound': -0.4767}
{'neg': 0.0, 'neu': 0.717, 'pos': 0.283, 'compound': 0.7579}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.277, 'neu': 0.723, 'pos': 0.0, 'compound': -0.3182}
{'neg': 0.114, 'neu': 0.806, 'pos': 0.08, 'compound': -0.6369}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.18, 'neu': 0.733, 'pos': 0.087, 'compound': -0.3404}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}

```

```

{'neg': 0.0, 'neu': 0.899, 'pos': 0.101, 'compound': 0.4019}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.101, 'neu': 0.763, 'pos': 0.136, 'compound': 0.2051}
{'neg': 0.0, 'neu': 0.81, 'pos': 0.19, 'compound': 0.4588}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 0.551, 'pos': 0.449, 'compound': 0.9524}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.562, 'neu': 0.438, 'pos': 0.0, 'compound': -0.8271}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.444, 'neu': 0.421, 'pos': 0.136, 'compound': -0.765}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 0.892, 'pos': 0.108, 'compound': 0.5423}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 0.508, 'pos': 0.492, 'compound': 0.8271}
{'neg': 0.115, 'neu': 0.766, 'pos': 0.119, 'compound': 0.0258}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 0.441, 'pos': 0.559, 'compound': 0.886}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 0.0, 'pos': 1.0, 'compound': 0.4939}
{'neg': 0.0, 'neu': 0.708, 'pos': 0.292, 'compound': 0.7351}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.153, 'neu': 0.643, 'pos': 0.204, 'compound': 0.5994}
{'neg': 0.0, 'neu': 0.667, 'pos': 0.333, 'compound': 0.7184}
{'neg': 0.0, 'neu': 0.769, 'pos': 0.231, 'compound': 0.4019}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 0.23, 'pos': 0.77, 'compound': 0.9906}
{'neg': 0.0, 'neu': 0.378, 'pos': 0.622, 'compound': 0.5095}
{'neg': 0.213, 'neu': 0.506, 'pos': 0.281, 'compound': 0.1719}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
[0.0, 0.4767, 0.0, 0.0, 0.0, 0.4767, -0.5994, 0.6808, 0.0, 0.0, 0.0, -0.4023,

```

```
0.0, 0.8271, 0.0, -0.2584, -0.4767, 0.7579, 0.0, -0.3182, -0.6369, 0.0, -0.3404,
0.0, 0.0, 0.4019, 0.0, 0.0, 0.2051, 0.4588, 0.0, 0.9524, 0.0, -0.8271, 0.0, 0.0,
0.0, 0.0, 0.0, 0.0, -0.765, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.5423,
0.0, 0.0, 0.8271, 0.0258, 0.0, 0.0, 0.886, 0.0, 0.4939, 0.7351, 0.0, 0.5994,
0.7184, 0.4019, 0.0, 0.9906, 0.5095, 0.1719, 0.0, 0.0, 0.0]
```

```
[ ]: avg_polarity = sum(polarity)/len(polarity)
print("Average Polarity:", avg_polarity)
if avg_polarity>0.05:
    print("The Video has got a Positive response")
elif avg_polarity<-0.05:
    print("The Video has got a Negative response")
else:
    print("The Video has got a Neutral response")

print("The comment with most positive sentiment:", comments[polarity.
    ↪index(max(polarity))], "with score", max(polarity), "and length", ↪
    ↪len(comments[polarity.index(max(polarity))]))
print("The comment with most negative sentiment:", comments[polarity.
    ↪index(min(polarity))], "with score", min(polarity), "and length", ↪
    ↪len(comments[polarity.index(min(polarity))]))
```

```
Average Polarity: 0.10437361111111111
The Video has got a Positive response
The comment with most positive sentiment: good programme
    with score 0.9906 and length 27
The comment with most negative sentiment: indian law for ladies rapist is a
useless
    with score -0.8271 and length 42
```

```
[ ]: import matplotlib.pyplot as plt

# Example counts (replace these with actual counts from your sentiment analysis)
positive_count = len(positive_comments)
negative_count = len(negative_comments)
neutral_count = len(neutral_comments)

# Labels and data for the bar chart
labels = ['Positive', 'Negative', 'Neutral']
comment_counts = [positive_count, negative_count, neutral_count]

# Creating the bar chart
plt.figure(figsize=(10, 6))
bars = plt.bar(labels, comment_counts, color=['blue', 'red', 'grey'])

# Adding value labels on top of each bar
for bar in bars:
```

```

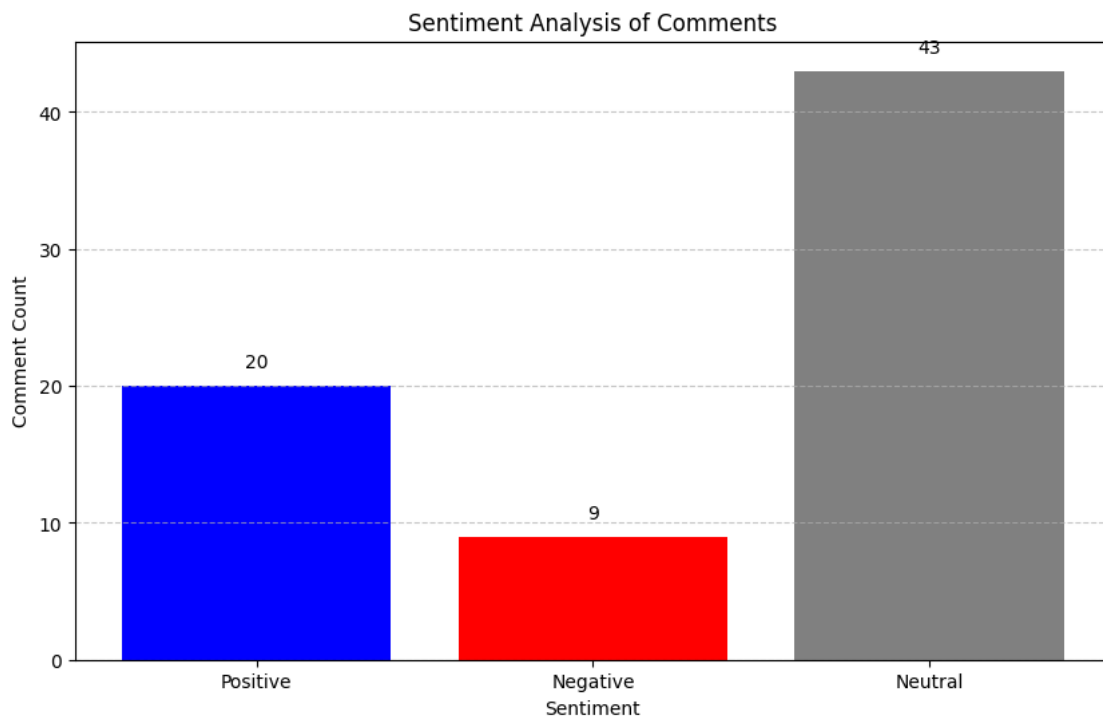
    yval = bar.get_height()
    plt.text(bar.get_x() + bar.get_width()/2, yval + 1, int(yval), ha='center',
    ↪va='bottom')

# Adding labels and title to the plot
plt.xlabel('Sentiment')
plt.ylabel('Comment Count')
plt.title('Sentiment Analysis of Comments')

# Adding grid lines for better readability
plt.grid(axis='y', linestyle='--', alpha=0.7)

# Displaying the chart
plt.show()

```



```

[ ]: # labels and data for Bar chart
labels = ['Positive', 'Negative', 'Neutral']
comment_counts = [positive_count, negative_count, neutral_count]

plt.figure(figsize=(10, 6)) # setting size

# plotting pie chart
plt.pie(comment_counts, labels=labels)

```

```
# Displaying Pie Chart  
plt.show()
```

