Challenge-4

Tan Ee Xuan

2023-09-06

Questions

Load the "CommQuest2023.csv" dataset using the `read_csv()` command and assign it to a variable named "comm_data."

```r
# Enter code here
comm_data <- read.csv("CommQuest2023_Larger.csv")
library(tidyverse)
```

```
## ── Attaching packages ──────────────────────────────── tidyverse 1.3.2 ──
## ✔ ggplot2 3.3.6      ✔ purrr   0.3.4
## ✔ tibble  3.1.8      ✔ dplyr   1.0.9
## ✔ tidyr   1.2.0      ✔ stringr 1.4.0
## ✔ readr   2.1.2      ✔ forcats 0.5.1
## ── Conflicts ──────────────────────────────── tidyverse_conflicts() ──
## ✖ dplyr::filter() masks stats::filter()
## ✖ dplyr::lag()    masks stats::lag()
```

Question-1: Communication Chronicles

Using the select command, create a new dataframe containing only the "date," "channel," and "message" columns from the "comm_data" dataset.

Solution:

```r
# Enter code here
comm_data %>%
  select(date,channel,message)
```

```
##                date channel         message
## 1       2023-08-11 Twitter    Fun weekend!
## 2       2023-08-11   Email Hello everyone!
## 3       2023-08-11   Slack Hello everyone!
## 4       2023-08-18   Email    Fun weekend!
## 5       2023-08-14   Slack Need assistance
## 6       2023-08-04   Email Need assistance
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## 467   2023-08-16    Email Need assistance
## 468   2023-08-15    Email Hello everyone!
## 469   2023-08-06 Twitter Hello everyone!
## 470   2023-08-13 Twitter   Exciting news!
## 471   2023-08-10 Twitter       Great work!
## 472   2023-08-18 Twitter   Exciting news!
## 473   2023-08-20 Twitter     Team meeting
## 474   2023-08-13 Twitter Need assistance
## 475   2023-08-20    Slack Hello everyone!
## 476   2023-08-04 Twitter      Fun weekend!
## 477   2023-08-05    Email   Exciting news!
## 478   2023-08-17 Twitter       Great work!
## 479   2023-08-08    Email   Exciting news!
## 480   2023-08-05    Email     Team meeting
## 481   2023-08-08 Twitter     Team meeting
## 482   2023-08-18    Email Need assistance
## 483   2023-08-17    Slack Need assistance
## 484   2023-08-07    Email Hello everyone!
## 485   2023-08-16 Twitter Hello everyone!
## 486   2023-08-05    Email Need assistance
## 487   2023-08-03 Twitter      Fun weekend!
## 488   2023-08-02    Email       Great work!
## 489   2023-08-13    Slack       Great work!
## 490   2023-08-09    Email      Fun weekend!
## 491   2023-08-04    Email     Team meeting
## 492   2023-08-04    Email Hello everyone!
## 493   2023-08-16    Email      Fun weekend!
## 494   2023-08-13 Twitter Hello everyone!
## 495   2023-08-04 Twitter Hello everyone!
## 496   2023-08-16 Twitter     Team meeting
## 497   2023-08-11    Slack Need assistance
## 498   2023-08-15    Slack Hello everyone!
## 499   2023-08-20    Email     Team meeting
## 500   2023-08-06    Slack     Team meeting
## 501   2023-08-05 Twitter     Team meeting
## 502   2023-08-07    Slack     Team meeting
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## 503   2023-08-06    Email Need assistance
## 504   2023-08-07    Slack Need assistance
## 505   2023-08-09 Twitter    Team meeting
## 506   2023-08-06    Email    Great work!
## 507   2023-08-17 Twitter    Team meeting
## 508   2023-08-15 Twitter  Exciting news!
## 509   2023-08-01 Twitter Hello everyone!
## 510   2023-08-09    Email    Fun weekend!
## 511   2023-08-05 Twitter    Fun weekend!
## 512   2023-08-10    Slack Need assistance
## 513   2023-08-16    Slack Need assistance
## 514   2023-08-07    Email    Team meeting
## 515   2023-08-07    Email  Exciting news!
## 516   2023-08-18    Email Hello everyone!
## 517   2023-08-17 Twitter    Fun weekend!
## 518   2023-08-15 Twitter    Team meeting
## 519   2023-08-13 Twitter  Exciting news!
## 520   2023-08-12    Email    Fun weekend!
## 521   2023-08-19 Twitter Need assistance
## 522   2023-08-19 Twitter    Team meeting
## 523   2023-08-12    Slack  Exciting news!
## 524   2023-08-17    Email    Fun weekend!
## 525   2023-08-07    Email    Team meeting
## 526   2023-08-16    Email Hello everyone!
## 527   2023-08-08    Email  Exciting news!
## 528   2023-08-07    Email  Exciting news!
## 529   2023-08-01 Twitter Hello everyone!
## 530   2023-08-07    Email    Great work!
## 531   2023-08-11    Slack    Great work!
## 532   2023-08-04 Twitter  Exciting news!
## 533   2023-08-11    Email    Great work!
## 534   2023-08-19 Twitter    Fun weekend!
## 535   2023-08-03    Email Need assistance
## 536   2023-08-09    Email    Fun weekend!
## 537   2023-08-19    Email    Team meeting
## 538   2023-08-08    Email    Great work!
## 539   2023-08-14    Slack    Great work!
## 540   2023-08-19    Email    Great work!
## 541   2023-08-12    Slack Need assistance
## 542   2023-08-11    Slack    Team meeting
## 543   2023-08-14 Twitter  Exciting news!
## 544   2023-08-10    Slack Need assistance
## 545   2023-08-19    Email    Fun weekend!
## 546   2023-08-09 Twitter Hello everyone!
## 547   2023-08-14 Twitter Hello everyone!
## 548   2023-08-08    Email Need assistance
## 549   2023-08-04    Slack Hello everyone!
## 550   2023-08-05 Twitter    Team meeting
## 551   2023-08-13 Twitter    Great work!
## 552   2023-08-15    Email    Great work!
## 553   2023-08-08 Twitter    Fun weekend!
## 554   2023-08-15    Slack    Team meeting
## 555   2023-08-08    Email Need assistance
## 556   2023-08-10    Slack  Exciting news!
## 557   2023-08-18    Slack    Team meeting
## 558   2023-08-20 Twitter    Fun weekend!
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## 559  2023-08-18    Email Need assistance
## 560  2023-08-12    Email Need assistance
## 561  2023-08-10    Slack   Exciting news!
## 562  2023-08-07    Slack   Exciting news!
## 563  2023-08-19 Twitter     Team meeting
## 564  2023-08-20 Twitter   Exciting news!
## 565  2023-08-04    Slack     Fun weekend!
## 566  2023-08-20    Slack     Team meeting
## 567  2023-08-04    Email Need assistance
## 568  2023-08-18 Twitter     Fun weekend!
## 569  2023-08-01 Twitter Hello everyone!
## 570  2023-08-17 Twitter Hello everyone!
## 571  2023-08-12    Slack Need assistance
## 572  2023-08-18 Twitter     Team meeting
## 573  2023-08-10    Email   Exciting news!
## 574  2023-08-18    Email   Exciting news!
## 575  2023-08-20    Slack     Great work!
## 576  2023-08-06    Slack Need assistance
## 577  2023-08-14 Twitter     Fun weekend!
## 578  2023-08-13    Email     Fun weekend!
## 579  2023-08-14 Twitter     Team meeting
## 580  2023-08-17 Twitter Hello everyone!
## 581  2023-08-03    Email Hello everyone!
## 582  2023-08-07 Twitter     Great work!
## 583  2023-08-15 Twitter Hello everyone!
## 584  2023-08-15    Email     Team meeting
## 585  2023-08-10    Email Hello everyone!
## 586  2023-08-02    Slack     Fun weekend!
## 587  2023-08-01    Slack     Team meeting
## 588  2023-08-15    Email Need assistance
## 589  2023-08-09    Email Hello everyone!
## 590  2023-08-16    Slack     Fun weekend!
## 591  2023-08-14    Email Hello everyone!
## 592  2023-08-04 Twitter     Fun weekend!
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## 594  2023-08-07    Email Hello everyone!
## 595  2023-08-02 Twitter Hello everyone!
## 596  2023-08-05    Slack     Great work!
## 597  2023-08-07    Email     Fun weekend!
## 598  2023-08-15    Slack     Great work!
## 599  2023-08-19    Email     Team meeting
## 600  2023-08-02    Slack   Exciting news!
## 601  2023-08-01    Slack   Exciting news!
## 602  2023-08-01    Email     Fun weekend!
## 603  2023-08-07 Twitter     Team meeting
## 604  2023-08-15    Email Need assistance
## 605  2023-08-08    Slack Need assistance
## 606  2023-08-18 Twitter Need assistance
## 607  2023-08-17    Email     Team meeting
## 608  2023-08-17 Twitter Need assistance
## 609  2023-08-10    Email     Team meeting
## 610  2023-08-15 Twitter Need assistance
## 611  2023-08-12 Twitter     Great work!
## 612  2023-08-13 Twitter     Great work!
## 613  2023-08-17 Twitter Hello everyone!
## 614  2023-08-02 Twitter Hello everyone!
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## 615   2023-08-10   Slack   Exciting news!
## 616   2023-08-06   Email Hello everyone!
## 617   2023-08-04   Email  Need assistance
## 618   2023-08-06   Email Hello everyone!
## 619   2023-08-03 Twitter  Need assistance
## 620   2023-08-14 Twitter     Fun weekend!
## 621   2023-08-09 Twitter   Exciting news!
## 622   2023-08-12   Email   Exciting news!
## 623   2023-08-13 Twitter     Great work!
## 624   2023-08-05   Email     Great work!
## 625   2023-08-15   Email     Fun weekend!
## 626   2023-08-12 Twitter     Fun weekend!
## 627   2023-08-04 Twitter     Fun weekend!
## 628   2023-08-05   Slack Need assistance
## 629   2023-08-19 Twitter Need assistance
## 630   2023-08-02 Twitter Need assistance
## 631   2023-08-08   Email     Great work!
## 632   2023-08-10 Twitter    Team meeting
## 633   2023-08-10 Twitter   Exciting news!
## 634   2023-08-15 Twitter     Fun weekend!
## 635   2023-08-14   Email Need assistance
## 636   2023-08-13   Email Hello everyone!
## 637   2023-08-06   Slack   Exciting news!
## 638   2023-08-19   Slack     Great work!
## 639   2023-08-03   Slack    Team meeting
## 640   2023-08-08 Twitter     Great work!
## 641   2023-08-13 Twitter     Fun weekend!
## 642   2023-08-17   Slack     Fun weekend!
## 643   2023-08-12   Email     Great work!
## 644   2023-08-06   Slack     Fun weekend!
## 645   2023-08-06 Twitter     Fun weekend!
## 646   2023-08-08   Email Need assistance
## 647   2023-08-06   Email Hello everyone!
## 648   2023-08-16   Email     Fun weekend!
## 649   2023-08-07   Slack    Team meeting
## 650   2023-08-14   Email     Fun weekend!
## 651   2023-08-08 Twitter     Great work!
## 652   2023-08-09 Twitter     Great work!
## 653   2023-08-01 Twitter     Great work!
## 654   2023-08-08 Twitter    Team meeting
## 655   2023-08-14   Email     Fun weekend!
## 656   2023-08-03   Slack   Exciting news!
## 657   2023-08-15   Slack     Fun weekend!
## 658   2023-08-14   Email Hello everyone!
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## 660   2023-08-18   Slack     Fun weekend!
## 661   2023-08-19 Twitter   Exciting news!
## 662   2023-08-15 Twitter    Team meeting
## 663   2023-08-01   Email Hello everyone!
## 664   2023-08-13 Twitter    Team meeting
## 665   2023-08-06   Slack Hello everyone!
## 666   2023-08-09   Email Hello everyone!
## 667   2023-08-07   Email    Team meeting
## 668   2023-08-05 Twitter     Great work!
## 669   2023-08-02 Twitter Need assistance
## 670   2023-08-08   Slack Hello everyone!
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## 671   2023-08-02   Slack Hello everyone!
## 672   2023-08-10   Email    Team meeting
## 673   2023-08-14   Slack Hello everyone!
## 674   2023-08-18   Email   Exciting news!
## 675   2023-08-14 Twitter     Great work!
## 676   2023-08-03   Slack     Great work!
## 677   2023-08-04   Email    Fun weekend!
## 678   2023-08-11 Twitter    Team meeting
## 679   2023-08-04 Twitter Hello everyone!
## 680   2023-08-10   Slack    Team meeting
## 681   2023-08-11   Slack    Team meeting
## 682   2023-08-13   Slack Need assistance
## 683   2023-08-13   Slack Need assistance
## 684   2023-08-18   Email Need assistance
## 685   2023-08-09   Slack Hello everyone!
## 686   2023-08-02 Twitter Need assistance
## 687   2023-08-13   Slack    Team meeting
## 688   2023-08-09   Email    Team meeting
## 689   2023-08-12 Twitter  Exciting news!
## 690   2023-08-06   Email Hello everyone!
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## 692   2023-08-10 Twitter  Exciting news!
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## 694   2023-08-03   Email     Great work!
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## 696   2023-08-16   Slack    Team meeting
## 697   2023-08-16   Slack Hello everyone!
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## 699   2023-08-07   Slack     Great work!
## 700   2023-08-12   Email  Exciting news!
## 701   2023-08-01   Slack Hello everyone!
## 702   2023-08-09   Email    Fun weekend!
## 703   2023-08-12 Twitter Need assistance
## 704   2023-08-12   Slack     Great work!
## 705   2023-08-17   Slack     Great work!
## 706   2023-08-13   Email Need assistance
## 707   2023-08-08   Slack  Exciting news!
## 708   2023-08-10   Slack    Fun weekend!
## 709   2023-08-09   Slack  Exciting news!
## 710   2023-08-05 Twitter  Exciting news!
## 711   2023-08-15 Twitter Hello everyone!
## 712   2023-08-14   Slack  Exciting news!
## 713   2023-08-05 Twitter     Great work!
## 714   2023-08-02 Twitter  Exciting news!
## 715   2023-08-18   Slack Hello everyone!
## 716   2023-08-08   Email    Fun weekend!
## 717   2023-08-12   Email Need assistance
## 718   2023-08-09 Twitter  Exciting news!
## 719   2023-08-16 Twitter  Exciting news!
## 720   2023-08-13 Twitter Hello everyone!
## 721   2023-08-08   Email    Fun weekend!
## 722   2023-08-03   Email     Great work!
## 723   2023-08-14   Email     Great work!
## 724   2023-08-06   Email     Great work!
## 725   2023-08-12   Email     Great work!
## 726   2023-08-03   Slack Need assistance
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## 727   2023-08-12    Email    Fun weekend!
## 728   2023-08-15    Email Need assistance
## 729   2023-08-14    Slack Hello everyone!
## 730   2023-08-20    Email    Fun weekend!
## 731   2023-08-07    Email  Exciting news!
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## 739   2023-08-13    Slack     Great work!
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## 741   2023-08-05 Twitter Hello everyone!
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## 743   2023-08-14    Slack  Exciting news!
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## 745   2023-08-07    Slack     Great work!
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## 747   2023-08-11 Twitter    Team meeting
## 748   2023-08-14    Email  Exciting news!
## 749   2023-08-02 Twitter Need assistance
## 750   2023-08-19 Twitter    Team meeting
## 751   2023-08-14 Twitter Need assistance
## 752   2023-08-13    Email     Great work!
## 753   2023-08-18    Slack Hello everyone!
## 754   2023-08-15 Twitter Need assistance
## 755   2023-08-01 Twitter Need assistance
## 756   2023-08-03    Slack    Fun weekend!
## 757   2023-08-07    Slack Need assistance
## 758   2023-08-01    Slack    Team meeting
## 759   2023-08-08    Email Hello everyone!
## 760   2023-08-01    Email    Team meeting
## 761   2023-08-05    Slack     Great work!
## 762   2023-08-02    Email    Fun weekend!
## 763   2023-08-08    Slack    Team meeting
## 764   2023-08-11 Twitter     Great work!
## 765   2023-08-12    Email  Exciting news!
## 766   2023-08-11    Slack     Great work!
## 767   2023-08-03    Email    Fun weekend!
## 768   2023-08-08 Twitter  Exciting news!
## 769   2023-08-01 Twitter Hello everyone!
## 770   2023-08-10    Slack  Exciting news!
## 771   2023-08-12    Email    Team meeting
## 772   2023-08-16    Email Hello everyone!
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## 775   2023-08-01 Twitter     Great work!
## 776   2023-08-15    Slack     Great work!
## 777   2023-08-19 Twitter Hello everyone!
## 778   2023-08-04 Twitter  Exciting news!
## 779   2023-08-16 Twitter     Great work!
## 780   2023-08-07    Slack Hello everyone!
## 781   2023-08-14 Twitter Need assistance
## 782   2023-08-15    Slack Hello everyone!
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## 783  2023-08-14 Twitter   Exciting news!
## 784  2023-08-10    Slack Need assistance
## 785  2023-08-09 Twitter Need assistance
## 786  2023-08-11    Email      Great work!
## 787  2023-08-02    Slack      Great work!
## 788  2023-08-15 Twitter    Team meeting
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## 790  2023-08-07    Slack Need assistance
## 791  2023-08-15    Slack Hello everyone!
## 792  2023-08-15    Email    Fun weekend!
## 793  2023-08-13    Slack Hello everyone!
## 794  2023-08-12 Twitter Need assistance
## 795  2023-08-19 Twitter Hello everyone!
## 796  2023-08-19 Twitter   Exciting news!
## 797  2023-08-06 Twitter    Fun weekend!
## 798  2023-08-11    Slack    Team meeting
## 799  2023-08-12    Slack    Team meeting
## 800  2023-08-13    Slack    Team meeting
## 801  2023-08-14    Email    Team meeting
## 802  2023-08-09    Slack    Fun weekend!
## 803  2023-08-17    Slack      Great work!
## 804  2023-08-09    Slack Hello everyone!
## 805  2023-08-06    Slack   Exciting news!
## 806  2023-08-19    Slack    Team meeting
## 807  2023-08-17 Twitter    Team meeting
## 808  2023-08-10    Email Hello everyone!
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## 810  2023-08-18    Slack      Great work!
## 811  2023-08-17 Twitter Need assistance
## 812  2023-08-10    Slack Hello everyone!
## 813  2023-08-12    Email   Exciting news!
## 814  2023-08-04    Slack Need assistance
## 815  2023-08-13    Email   Exciting news!
## 816  2023-08-04    Email    Fun weekend!
## 817  2023-08-09    Email    Fun weekend!
## 818  2023-08-11 Twitter Hello everyone!
## 819  2023-08-08    Slack Hello everyone!
## 820  2023-08-11    Email    Team meeting
## 821  2023-08-18 Twitter    Fun weekend!
## 822  2023-08-16    Slack    Fun weekend!
## 823  2023-08-06    Slack Need assistance
## 824  2023-08-04    Slack    Fun weekend!
## 825  2023-08-14 Twitter    Fun weekend!
## 826  2023-08-09 Twitter Hello everyone!
## 827  2023-08-12    Email    Team meeting
## 828  2023-08-03    Slack Need assistance
## 829  2023-08-07    Slack Hello everyone!
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## 831  2023-08-20    Slack    Fun weekend!
## 832  2023-08-03    Email    Fun weekend!
## 833  2023-08-14    Slack    Team meeting
## 834  2023-08-18 Twitter    Fun weekend!
## 835  2023-08-03    Email Hello everyone!
## 836  2023-08-12 Twitter    Team meeting
## 837  2023-08-10 Twitter      Great work!
## 838  2023-08-18    Slack    Fun weekend!
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## 839   2023-08-19   Email    Great work!
## 840   2023-08-03   Email Need assistance
## 841   2023-08-19   Email Hello everyone!
## 842   2023-08-11   Slack    Fun weekend!
## 843   2023-08-20   Slack Hello everyone!
## 844   2023-08-05 Twitter   Exciting news!
## 845   2023-08-14 Twitter     Great work!
## 846   2023-08-10   Email   Exciting news!
## 847   2023-08-10 Twitter     Great work!
## 848   2023-08-07 Twitter     Great work!
## 849   2023-08-03   Slack Hello everyone!
## 850   2023-08-08   Slack Need assistance
## 851   2023-08-16   Slack  Exciting news!
## 852   2023-08-12   Email Need assistance
## 853   2023-08-10   Email    Fun weekend!
## 854   2023-08-19   Email     Great work!
## 855   2023-08-19   Email    Team meeting
## 856   2023-08-05   Email Hello everyone!
## 857   2023-08-05 Twitter Hello everyone!
## 858   2023-08-12 Twitter     Fun weekend!
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## 860   2023-08-19 Twitter  Exciting news!
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## 889   2023-08-13   Email Need assistance
## 890   2023-08-01 Twitter     Great work!
## 891   2023-08-09   Email    Fun weekend!
## 892   2023-08-19   Slack    Team meeting
## 893   2023-08-19   Slack    Team meeting
## 894   2023-08-06   Slack Need assistance
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## 895   2023-08-01   Email   Team meeting
## 896   2023-08-01   Email    Great work!
## 897   2023-08-05   Email   Team meeting
## 898   2023-08-06   Email Hello everyone!
## 899   2023-08-11   Slack   Team meeting
## 900   2023-08-20   Email   Team meeting
## 901   2023-08-03   Slack Need assistance
## 902   2023-08-18   Slack   Team meeting
## 903   2023-08-10   Email Need assistance
## 904   2023-08-17 Twitter    Great work!
## 905   2023-08-08   Slack   Team meeting
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## 911   2023-08-01 Twitter Need assistance
## 912   2023-08-10 Twitter    Fun weekend!
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## 914   2023-08-10   Slack Need assistance
## 915   2023-08-02   Slack    Fun weekend!
## 916   2023-08-09   Email    Fun weekend!
## 917   2023-08-10   Slack Need assistance
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## 940   2023-08-17 Twitter Need assistance
## 941   2023-08-06 Twitter  Exciting news!
## 942   2023-08-01   Slack  Exciting news!
## 943   2023-08-08   Email  Exciting news!
## 944   2023-08-13 Twitter    Great work!
## 945   2023-08-06   Slack  Exciting news!
## 946   2023-08-08   Email Hello everyone!
## 947   2023-08-20   Slack Hello everyone!
## 948   2023-08-01 Twitter Need assistance
## 949   2023-08-02   Slack  Exciting news!
## 950   2023-08-11   Email Need assistance
```

```
## 951  2023-08-11    Slack     Great work!
## 952  2023-08-05    Slack Need assistance
## 953  2023-08-07    Email    Fun weekend!
## 954  2023-08-20 Twitter Hello everyone!
## 955  2023-08-01    Slack Need assistance
## 956  2023-08-09    Email Need assistance
## 957  2023-08-12    Slack Need assistance
## 958  2023-08-19    Slack  Exciting news!
## 959  2023-08-17 Twitter  Exciting news!
## 960  2023-08-11 Twitter Hello everyone!
## 961  2023-08-17 Twitter   Team meeting
## 962  2023-08-06    Email Need assistance
## 963  2023-08-10    Email  Exciting news!
## 964  2023-08-18    Email Need assistance
## 965  2023-08-07    Slack     Great work!
## 966  2023-08-09    Email   Team meeting
## 967  2023-08-18 Twitter     Great work!
## 968  2023-08-06 Twitter   Team meeting
## 969  2023-08-02    Slack     Great work!
## 970  2023-08-17    Email Need assistance
## 971  2023-08-08    Email   Team meeting
## 972  2023-08-20 Twitter  Exciting news!
## 973  2023-08-02 Twitter Need assistance
## 974  2023-08-08    Slack  Exciting news!
## 975  2023-08-01    Email    Fun weekend!
## 976  2023-08-12 Twitter     Great work!
## 977  2023-08-19 Twitter Hello everyone!
## 978  2023-08-12 Twitter   Team meeting
## 979  2023-08-07    Slack     Great work!
## 980  2023-08-08 Twitter     Great work!
## 981  2023-08-14    Email     Great work!
## 982  2023-08-13    Email    Fun weekend!
## 983  2023-08-18    Email   Team meeting
## 984  2023-08-10 Twitter    Fun weekend!
## 985  2023-08-03    Slack Need assistance
## 986  2023-08-08 Twitter Need assistance
## 987  2023-08-05    Email   Team meeting
## 988  2023-08-17    Slack Hello everyone!
## 989  2023-08-03    Slack     Great work!
## 990  2023-08-07    Slack    Fun weekend!
## 991  2023-08-18    Slack     Great work!
## 992  2023-08-12    Slack Hello everyone!
## 993  2023-08-10    Email Need assistance
## 994  2023-08-14    Slack  Exciting news!
## 995  2023-08-04 Twitter   Team meeting
## 996  2023-08-05 Twitter Hello everyone!
## 997  2023-08-12 Twitter  Exciting news!
## 998  2023-08-07    Slack  Exciting news!
## 999  2023-08-08    Slack    Fun weekend!
## 1000 2023-08-03    Email Hello everyone!
```

Question-2: Channel Selection

Use the filter command to create a new dataframe that includes messages sent through the "Twitter" channel on August 2nd.

Solution:

```
# Enter code here
comm_data %>%
  filter(channel == "Twitter", date == "2023-08-02")
```

```
##            date channel        sender        message  sentiment
## 1  2023-08-02 Twitter alice@example    Team meeting  0.2100900
## 2  2023-08-02 Twitter  @erin_tweets  Exciting news!  0.7504925
## 3  2023-08-02 Twitter  dave@example  Exciting news!  0.8171056
## 4  2023-08-02 Twitter  @erin_tweets  Exciting news!  0.5815569
## 5  2023-08-02 Twitter  @erin_tweets  Exciting news! -0.5251436
## 6  2023-08-02 Twitter alice@example    Team meeting  0.9649580
## 7  2023-08-02 Twitter  dave@example     Great work!  0.5161380
## 8  2023-08-02 Twitter   carol_slack Hello everyone!  0.4509874
## 9  2023-08-02 Twitter   carol_slack Hello everyone!  0.1738512
## 10 2023-08-02 Twitter   carol_slack Need assistance  0.2159540
## 11 2023-08-02 Twitter   @frank_chat Need assistance -0.1151795
## 12 2023-08-02 Twitter alice@example Need assistance  0.1576534
## 13 2023-08-02 Twitter   carol_slack  Exciting news! -0.6932178
## 14 2023-08-02 Twitter   @bob_tweets Need assistance -0.2819158
## 15 2023-08-02 Twitter  @erin_tweets Need assistance  0.8210797
```

Question-3: Chronological Order

Utilizing the arrange command, arrange the "comm_data" dataframe in ascending order based on the "date" column.

Solution:

```
# Enter code here
comm_data %>%
  arrange(date)
```

```
##             date channel        sender        message    sentiment
## 1    2023-08-01 Twitter alice@example Need assistance  0.676776995
## 2    2023-08-01 Twitter   @bob_tweets Need assistance  0.148395223
## 3    2023-08-01 Twitter   @frank_chat Need assistance  0.599045397
## 4    2023-08-01 Twitter   @frank_chat  Exciting news! -0.822780307
## 5    2023-08-01   Slack   @frank_chat   Team meeting -0.202094683
## 6    2023-08-01   Slack   @bob_tweets  Exciting news!  0.146396939
## 7    2023-08-01   Slack  @erin_tweets     Great work!  0.244422906
## 8    2023-08-01 Twitter   @frank_chat   Team meeting -0.526283488
## 9    2023-08-01 Twitter   @frank_chat  Exciting news! -0.398672424
## 10   2023-08-01   Slack   @frank_chat Need assistance  0.601800072
## 11   2023-08-01   Slack   carol_slack Hello everyone!  0.802523659
## 12   2023-08-01   Slack  dave@example   Team meeting -0.176315426
## 13   2023-08-01   Email   carol_slack    Fun weekend!  0.757286296
## 14   2023-08-01   Email   @frank_chat   Team meeting -0.670432338
## 15   2023-08-01 Twitter   @bob_tweets  Exciting news! -0.452694423
## 16   2023-08-01   Slack   carol_slack    Fun weekend! -0.877705400
## 17   2023-08-01   Email   carol_slack Need assistance -0.130674560
## 18   2023-08-01   Slack  dave@example   Team meeting  0.093826082
## 19   2023-08-01 Twitter   @frank_chat     Great work!  0.473425272
## 20   2023-08-01 Twitter   @bob_tweets Hello everyone! -0.918783627
## 21   2023-08-01 Twitter  @erin_tweets Hello everyone!  0.524320859
## 22   2023-08-01 Twitter  dave@example Hello everyone!  0.530999278
## 23   2023-08-01   Slack  @erin_tweets   Team meeting  0.031597136
## 24   2023-08-01   Slack   @bob_tweets  Exciting news! -0.024743940
## 25   2023-08-01   Email   @frank_chat    Fun weekend! -0.797102704
## 26   2023-08-01 Twitter   carol_slack     Great work!  0.406890230
## 27   2023-08-01   Email   @bob_tweets Hello everyone!  0.902623749
## 28   2023-08-01   Slack   @frank_chat Hello everyone! -0.572465386
## 29   2023-08-01 Twitter   @frank_chat Need assistance -0.970480603
## 30   2023-08-01   Slack   @frank_chat   Team meeting -0.113114946
## 31   2023-08-01   Email   @bob_tweets   Team meeting  0.783531986
## 32   2023-08-01 Twitter  @erin_tweets Hello everyone! -0.325806037
## 33   2023-08-01 Twitter   @frank_chat     Great work!  0.159243134
## 34   2023-08-01   Slack   @bob_tweets Need assistance -0.614020258
## 35   2023-08-01 Twitter  @erin_tweets  Exciting news!  0.423581860
## 36   2023-08-01   Email   carol_slack     Great work!  0.605523043
## 37   2023-08-01 Twitter   carol_slack     Great work! -0.311684015
## 38   2023-08-01   Email   @frank_chat   Team meeting -0.307752223
## 39   2023-08-01   Email  dave@example     Great work! -0.948017055
## 40   2023-08-01 Twitter   @frank_chat Need assistance -0.003094339
## 41   2023-08-01   Email   carol_slack     Great work! -0.389590032
## 42   2023-08-01   Slack alice@example  Exciting news!  0.350437745
## 43   2023-08-01 Twitter   @frank_chat Need assistance -0.696885624
## 44   2023-08-01   Slack  dave@example Need assistance -0.988749139
## 45   2023-08-01   Email  @erin_tweets    Fun weekend!  0.203746784
## 46   2023-08-02   Email  dave@example     Great work!  0.973676749
## 47   2023-08-02 Twitter alice@example   Team meeting  0.210089974
## 48   2023-08-02   Slack  @erin_tweets    Fun weekend! -0.474169046
## 49   2023-08-02 Twitter  @erin_tweets  Exciting news!  0.750492542
## 50   2023-08-02   Slack  @erin_tweets  Exciting news!  0.900116188
## 51   2023-08-02 Twitter  dave@example  Exciting news!  0.817105632
## 52   2023-08-02 Twitter  @erin_tweets  Exciting news!  0.581556937
## 53   2023-08-02 Twitter  @erin_tweets  Exciting news! -0.525143623
## 54   2023-08-02 Twitter alice@example   Team meeting  0.964958043
```

```
## 55    2023-08-02    Email   dave@example   Exciting news!   0.717076284
## 56    2023-08-02    Slack  alice@example     Fun weekend!   0.823352248
## 57    2023-08-02    Email   dave@example     Fun weekend!  -0.357268680
## 58    2023-08-02  Twitter   dave@example       Great work!   0.516138048
## 59    2023-08-02    Email   dave@example   Exciting news!  -0.212464974
## 60    2023-08-02    Email  alice@example       Great work!  -0.784876938
## 61    2023-08-02    Slack  alice@example     Fun weekend!  -0.485003887
## 62    2023-08-02  Twitter    carol_slack  Hello everyone!   0.450987421
## 63    2023-08-02    Slack    @bob_tweets   Exciting news!   0.365244868
## 64    2023-08-02  Twitter    carol_slack  Hello everyone!   0.173851238
## 65    2023-08-02  Twitter    carol_slack  Need assistance   0.215954025
## 66    2023-08-02  Twitter    @frank_chat  Need assistance  -0.115179492
## 67    2023-08-02    Slack    carol_slack  Hello everyone!   0.805289558
## 68    2023-08-02  Twitter  alice@example  Need assistance   0.157653404
## 69    2023-08-02  Twitter    carol_slack   Exciting news!  -0.693217811
## 70    2023-08-02  Twitter    @bob_tweets  Need assistance  -0.281915764
## 71    2023-08-02    Email    @frank_chat     Fun weekend!   0.129630754
## 72    2023-08-02    Slack    carol_slack       Great work!   0.066785066
## 73    2023-08-02    Slack    carol_slack     Fun weekend!   0.045978463
## 74    2023-08-02    Slack    @bob_tweets       Great work!  -0.666475324
## 75    2023-08-02    Slack   dave@example   Exciting news!  -0.662697271
## 76    2023-08-02    Slack   @erin_tweets       Great work!  -0.887057793
## 77    2023-08-02  Twitter   @erin_tweets  Need assistance   0.821079701
## 78    2023-08-03    Email   @erin_tweets     Fun weekend!   0.924321534
## 79    2023-08-03  Twitter    @bob_tweets   Exciting news!  -0.408464086
## 80    2023-08-03  Twitter   @erin_tweets  Need assistance  -0.680233249
## 81    2023-08-03  Twitter  alice@example  Hello everyone!   0.530733542
## 82    2023-08-03  Twitter    carol_slack   Exciting news!   0.044649603
## 83    2023-08-03  Twitter    @bob_tweets  Hello everyone!  -0.243440011
## 84    2023-08-03    Email   dave@example  Hello everyone!   0.575844854
## 85    2023-08-03  Twitter   dave@example     Team meeting  -0.024207670
## 86    2023-08-03    Email   @erin_tweets     Team meeting   0.100578078
## 87    2023-08-03  Twitter    @bob_tweets  Need assistance   0.115823371
## 88    2023-08-03  Twitter    carol_slack       Great work!   0.646422371
## 89    2023-08-03  Twitter    carol_slack       Great work!   0.049291416
## 90    2023-08-03    Slack  alice@example       Great work!  -0.150377708
## 91    2023-08-03  Twitter   dave@example  Hello everyone!   0.902683333
## 92    2023-08-03    Slack   dave@example       Great work!  -0.488912587
## 93    2023-08-03  Twitter  alice@example  Hello everyone!  -0.893453151
## 94    2023-08-03    Email    @frank_chat  Need assistance  -0.345415825
## 95    2023-08-03    Email   @erin_tweets       Great work!  -0.900102365
## 96    2023-08-03  Twitter  alice@example  Hello everyone!  -0.567197050
## 97    2023-08-03  Twitter   @erin_tweets     Fun weekend!  -0.345988781
## 98    2023-08-03    Email    carol_slack  Need assistance   0.247236022
## 99    2023-08-03    Email    @frank_chat  Hello everyone!   0.488557915
## 100   2023-08-03  Twitter  alice@example  Need assistance   0.747163485
## 101   2023-08-03    Slack   @erin_tweets     Team meeting  -0.812502595
## 102   2023-08-03    Slack    @frank_chat   Exciting news!   0.591279314
## 103   2023-08-03    Slack    carol_slack       Great work!  -0.777630202
## 104   2023-08-03    Email    @frank_chat       Great work!  -0.022698464
## 105   2023-08-03    Email    @frank_chat       Great work!  -0.222633559
## 106   2023-08-03    Slack   @erin_tweets  Need assistance  -0.173975688
## 107   2023-08-03    Email  alice@example  Hello everyone!   0.713812393
## 108   2023-08-03    Slack  alice@example     Fun weekend!   0.542070733
## 109   2023-08-03    Email    @frank_chat     Fun weekend!   0.992682932
## 110   2023-08-03    Slack  alice@example  Need assistance   0.135939530
```

```
## 111  2023-08-03    Email alice@example   Fun weekend!  0.312383833
## 112  2023-08-03    Email alice@example Hello everyone! -0.440484574
## 113  2023-08-03    Email   carol_slack Need assistance -0.161143415
## 114  2023-08-03    Slack    @frank_chat Hello everyone!  0.368215033
## 115  2023-08-03  Twitter    @bob_tweets Hello everyone!  0.401231622
## 116  2023-08-03    Slack    @bob_tweets     Great work!  0.884830707
## 117  2023-08-03    Slack   @erin_tweets Need assistance -0.600851388
## 118  2023-08-03    Slack   @erin_tweets Need assistance  0.896539724
## 119  2023-08-03    Slack    @bob_tweets Need assistance  0.496275815
## 120  2023-08-03    Slack    dave@example     Great work!  0.675534202
## 121  2023-08-03    Email    @frank_chat Hello everyone!  0.583445542
## 122  2023-08-04    Email   @erin_tweets Need assistance -0.108376242
## 123  2023-08-04    Slack alice@example Hello everyone! -0.187917918
## 124  2023-08-04    Email    @bob_tweets   Fun weekend! -0.539049788
## 125  2023-08-04  Twitter    @bob_tweets   Fun weekend!  0.185009266
## 126  2023-08-04    Slack alice@example Need assistance  0.534302738
## 127  2023-08-04    Slack    @bob_tweets   Fun weekend!  0.866016825
## 128  2023-08-04    Email alice@example  Exciting news! -0.200843529
## 129  2023-08-04    Email   @erin_tweets Need assistance  0.689327837
## 130  2023-08-04  Twitter   dave@example Need assistance -0.635092593
## 131  2023-08-04    Slack    @frank_chat Need assistance  0.691338675
## 132  2023-08-04    Slack    carol_slack   Fun weekend! -0.049394990
## 133  2023-08-04    Email alice@example     Great work! -0.769964864
## 134  2023-08-04    Email    @frank_chat Need assistance  0.063336529
## 135  2023-08-04    Email    @bob_tweets Need assistance  0.017915569
## 136  2023-08-04    Slack   dave@example   Fun weekend! -0.848228461
## 137  2023-08-04    Slack alice@example   Team meeting -0.111247493
## 138  2023-08-04    Email    @frank_chat     Great work! -0.317266905
## 139  2023-08-04  Twitter    @bob_tweets   Fun weekend!  0.163814227
## 140  2023-08-04    Email   @erin_tweets   Fun weekend! -0.415885320
## 141  2023-08-04    Slack    carol_slack Need assistance  0.088740259
## 142  2023-08-04    Email alice@example  Exciting news!  0.308247630
## 143  2023-08-04  Twitter    @bob_tweets  Exciting news! -0.122806889
## 144  2023-08-04    Slack    @frank_chat Need assistance  0.933738099
## 145  2023-08-04    Email    @frank_chat     Great work!  0.263225980
## 146  2023-08-04  Twitter   dave@example   Fun weekend!  0.463157478
## 147  2023-08-04    Email    @bob_tweets   Team meeting -0.235653992
## 148  2023-08-04    Email alice@example Hello everyone!  0.161035733
## 149  2023-08-04  Twitter    @bob_tweets Hello everyone! -0.774547359
## 150  2023-08-04  Twitter    carol_slack  Exciting news! -0.615862965
## 151  2023-08-04    Slack    @bob_tweets Hello everyone! -0.161284721
## 152  2023-08-04    Slack   dave@example   Fun weekend!  0.796501584
## 153  2023-08-04    Email   @erin_tweets Need assistance -0.070094255
## 154  2023-08-04  Twitter   dave@example   Fun weekend! -0.495438306
## 155  2023-08-04    Email    carol_slack Need assistance  0.188933107
## 156  2023-08-04  Twitter alice@example   Fun weekend! -0.693275109
## 157  2023-08-04    Email    @bob_tweets   Fun weekend!  0.419715998
## 158  2023-08-04  Twitter   @erin_tweets Hello everyone! -0.217646003
## 159  2023-08-04  Twitter    @frank_chat  Exciting news!  0.795437461
## 160  2023-08-04    Slack    @frank_chat Need assistance  0.165087673
## 161  2023-08-04    Email    @bob_tweets   Fun weekend! -0.953222217
## 162  2023-08-04    Slack    @frank_chat   Fun weekend! -0.530567507
## 163  2023-08-04  Twitter    @bob_tweets  Exciting news!  0.053784013
## 164  2023-08-04    Email    @bob_tweets     Great work! -0.251496902
## 165  2023-08-04  Twitter   dave@example   Team meeting -0.785379849
## 166  2023-08-05    Email    carol_slack  Exciting news!  0.468174768
```

```
## 167   2023-08-05    Slack   @erin_tweets Need assistance -0.195926677
## 168   2023-08-05  Twitter alice@example     Great work! -0.630844017
## 169   2023-08-05  Twitter   @bob_tweets Need assistance  0.089429019
## 170   2023-08-05    Slack   @bob_tweets Hello everyone! -0.940684421
## 171   2023-08-05    Slack   @bob_tweets    Team meeting -0.386754569
## 172   2023-08-05    Email  @erin_tweets   Exciting news!  0.549038415
## 173   2023-08-05    Slack   carol_slack    Team meeting -0.320228465
## 174   2023-08-05  Twitter   carol_slack    Fun weekend!  0.706561523
## 175   2023-08-05    Slack  @erin_tweets Need assistance  0.519475343
## 176   2023-08-05  Twitter alice@example    Team meeting  0.824948560
## 177   2023-08-05    Slack  @erin_tweets  Exciting news! -0.302134784
## 178   2023-08-05  Twitter   carol_slack    Team meeting  0.364639959
## 179   2023-08-05    Email   carol_slack    Fun weekend!  0.451752027
## 180   2023-08-05    Email   @bob_tweets Hello everyone!  0.616259416
## 181   2023-08-05  Twitter   @bob_tweets Hello everyone! -0.038818533
## 182   2023-08-05    Email   carol_slack Need assistance  0.558824511
## 183   2023-08-05    Email   @frank_chat  Exciting news!  0.567230823
## 184   2023-08-05    Email   @frank_chat    Team meeting -0.094959955
## 185   2023-08-05    Email   carol_slack Need assistance  0.300882405
## 186   2023-08-05  Twitter  dave@example    Team meeting  0.779166287
## 187   2023-08-05  Twitter  dave@example    Fun weekend! -0.021554315
## 188   2023-08-05  Twitter alice@example    Team meeting  0.082249742
## 189   2023-08-05    Slack   carol_slack     Great work!  0.470731148
## 190   2023-08-05    Email  @erin_tweets     Great work!  0.830162693
## 191   2023-08-05    Slack   @bob_tweets Need assistance  0.291605130
## 192   2023-08-05    Email alice@example    Fun weekend!  0.347548683
## 193   2023-08-05  Twitter  dave@example     Great work!  0.245927144
## 194   2023-08-05    Email  @erin_tweets  Exciting news! -0.283369262
## 195   2023-08-05  Twitter alice@example  Exciting news!  0.722319741
## 196   2023-08-05  Twitter  dave@example     Great work!  0.544805384
## 197   2023-08-05  Twitter   carol_slack Hello everyone!  0.130742100
## 198   2023-08-05    Slack  dave@example     Great work!  0.018169560
## 199   2023-08-05  Twitter   @bob_tweets  Exciting news! -0.798021044
## 200   2023-08-05    Email   @bob_tweets Hello everyone!  0.725036937
## 201   2023-08-05  Twitter   carol_slack Hello everyone! -0.279889458
## 202   2023-08-05    Email alice@example Hello everyone! -0.822144668
## 203   2023-08-05    Email alice@example Need assistance  0.694902051
## 204   2023-08-05  Twitter  @erin_tweets    Fun weekend!  0.619198539
## 205   2023-08-05    Email   @frank_chat    Team meeting  0.611721705
## 206   2023-08-05    Slack  @erin_tweets    Fun weekend! -0.240693055
## 207   2023-08-05    Slack   @frank_chat Need assistance -0.129298556
## 208   2023-08-05    Email   @bob_tweets    Team meeting  0.243233590
## 209   2023-08-05  Twitter   @frank_chat Hello everyone!  0.599585856
## 210   2023-08-06    Email   @frank_chat    Team meeting  0.819675826
## 211   2023-08-06    Slack  dave@example Hello everyone!  0.968081689
## 212   2023-08-06  Twitter  @erin_tweets  Exciting news! -0.415566467
## 213   2023-08-06    Email   carol_slack     Great work! -0.579760317
## 214   2023-08-06  Twitter alice@example Hello everyone! -0.882707532
## 215   2023-08-06    Slack   @bob_tweets Hello everyone! -0.452905738
## 216   2023-08-06    Slack   @frank_chat Hello everyone! -0.050532605
## 217   2023-08-06  Twitter   @bob_tweets    Fun weekend! -0.149422837
## 218   2023-08-06    Email   @bob_tweets    Fun weekend!  0.201027735
## 219   2023-08-06  Twitter  dave@example  Exciting news! -0.433124611
## 220   2023-08-06    Email   @bob_tweets    Fun weekend! -0.159573650
## 221   2023-08-06    Slack   @frank_chat Need assistance  0.746888391
## 222   2023-08-06    Slack   @bob_tweets    Fun weekend! -0.927836751
```

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## 223  2023-08-06 Twitter   carol_slack    Team meeting -0.385177557
## 224  2023-08-06    Email  dave@example Need assistance -0.438415068
## 225  2023-08-06 Twitter   @bob_tweets    Team meeting -0.549432104
## 226  2023-08-06    Slack alice@example   Fun weekend! -0.103599444
## 227  2023-08-06    Email   carol_slack    Great work!  0.766328182
## 228  2023-08-06    Slack alice@example   Fun weekend! -0.143456620
## 229  2023-08-06    Email  @frank_chat  Exciting news!  0.696377364
## 230  2023-08-06    Slack alice@example    Great work! -0.545365768
## 231  2023-08-06    Email  @frank_chat   Fun weekend!  0.791513952
## 232  2023-08-06 Twitter  dave@example Need assistance -0.064178423
## 233  2023-08-06 Twitter   @bob_tweets Hello everyone!  0.116596443
## 234  2023-08-06    Slack  dave@example    Team meeting -0.536957865
## 235  2023-08-06    Email  @erin_tweets Need assistance  0.664381829
## 236  2023-08-06    Email   @bob_tweets    Great work! -0.400677142
## 237  2023-08-06    Slack alice@example Need assistance  0.037042340
## 238  2023-08-06    Email  @erin_tweets Hello everyone! -0.172054263
## 239  2023-08-06    Email  dave@example Hello everyone! -0.987261285
## 240  2023-08-06    Slack   carol_slack  Exciting news! -0.633368273
## 241  2023-08-06    Slack   @bob_tweets   Fun weekend! -0.895003283
## 242  2023-08-06 Twitter  dave@example   Fun weekend!  0.005671109
## 243  2023-08-06    Email  @erin_tweets Hello everyone!  0.905330024
## 244  2023-08-06    Slack alice@example Hello everyone!  0.710270591
## 245  2023-08-06    Email   carol_slack Hello everyone!  0.076276061
## 246  2023-08-06    Email   @bob_tweets    Great work! -0.417041691
## 247  2023-08-06 Twitter   @bob_tweets  Exciting news!  0.979591473
## 248  2023-08-06 Twitter   carol_slack   Fun weekend!  0.394200163
## 249  2023-08-06    Slack  @erin_tweets  Exciting news!  0.063273371
## 250  2023-08-06    Slack   carol_slack Need assistance  0.572155187
## 251  2023-08-06    Slack  @erin_tweets    Great work! -0.387922954
## 252  2023-08-06    Slack   @bob_tweets Need assistance  0.743181323
## 253  2023-08-06    Email  @erin_tweets Hello everyone! -0.318016798
## 254  2023-08-06 Twitter   carol_slack  Exciting news! -0.329569053
## 255  2023-08-06    Slack   carol_slack  Exciting news! -0.249575844
## 256  2023-08-06    Email  dave@example Need assistance  0.492307736
## 257  2023-08-06 Twitter  dave@example    Team meeting  0.165403601
## 258  2023-08-07    Email   @bob_tweets    Great work!  0.642848774
## 259  2023-08-07    Email  dave@example    Team meeting  0.327507946
## 260  2023-08-07    Email  @frank_chat   Fun weekend!  0.387379609
## 261  2023-08-07    Slack  @frank_chat Need assistance  0.914976185
## 262  2023-08-07    Email alice@example    Great work! -0.329095908
## 263  2023-08-07    Slack   @bob_tweets Need assistance -0.356371285
## 264  2023-08-07    Slack  @frank_chat  Exciting news!  0.993148146
## 265  2023-08-07    Email alice@example  Exciting news!  0.773558143
## 266  2023-08-07 Twitter   @bob_tweets   Fun weekend! -0.390309056
## 267  2023-08-07    Email  @erin_tweets    Great work! -0.446627778
## 268  2023-08-07    Slack alice@example  Exciting news! -0.686074989
## 269  2023-08-07    Email alice@example Hello everyone!  0.917979236
## 270  2023-08-07    Email   carol_slack  Exciting news!  0.785684678
## 271  2023-08-07    Slack alice@example Need assistance  0.877496709
## 272  2023-08-07    Email   @bob_tweets    Team meeting -0.767587414
## 273  2023-08-07 Twitter  dave@example    Team meeting -0.014527882
## 274  2023-08-07    Slack  @erin_tweets Hello everyone!  0.079340591
## 275  2023-08-07    Slack   @bob_tweets Need assistance -0.611560303
## 276  2023-08-07    Slack   carol_slack Hello everyone!  0.973429719
## 277  2023-08-07    Slack   @bob_tweets  Exciting news!  0.370947586
## 278  2023-08-07    Slack  @erin_tweets    Great work! -0.643276188
```

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## 279  2023-08-07 Twitter   dave@example  Exciting news!  0.466239469
## 280  2023-08-07   Slack    carol_slack   Team meeting    0.190247875
## 281  2023-08-07 Twitter    carol_slack  Need assistance  0.895823483
## 282  2023-08-07 Twitter    carol_slack     Great work!   0.805481421
## 283  2023-08-07   Email    @bob_tweets    Team meeting   -0.150205611
## 284  2023-08-07   Slack   alice@example   Fun weekend!    0.397376804
## 285  2023-08-07 Twitter    carol_slack  Hello everyone!  -0.355751095
## 286  2023-08-07   Email    dave@example Hello everyone!  -0.526591262
## 287  2023-08-07   Slack   alice@example   Team meeting    0.569526526
## 288  2023-08-07   Slack    dave@example Need assistance  -0.718395420
## 289  2023-08-07   Email    @bob_tweets    Team meeting   -0.423585835
## 290  2023-08-07   Email    dave@example  Exciting news!  -0.184577833
## 291  2023-08-07   Email    @frank_chat    Team meeting    0.192018484
## 292  2023-08-07   Email    @bob_tweets   Exciting news!  -0.616928389
## 293  2023-08-07   Email    dave@example    Great work!   -0.359934055
## 294  2023-08-07   Slack    dave@example  Exciting news!  -0.823877914
## 295  2023-08-07 Twitter    @frank_chat     Great work!   -0.823533585
## 296  2023-08-07   Email    @frank_chat  Hello everyone!  -0.143556185
## 297  2023-08-07   Email    dave@example   Fun weekend!   -0.735883705
## 298  2023-08-07 Twitter   alice@example   Team meeting   -0.365139902
## 299  2023-08-07   Slack    @erin_tweets   Team meeting   -0.780283807
## 300  2023-08-07   Email    @bob_tweets    Team meeting   -0.232356975
## 301  2023-08-07   Slack    @bob_tweets     Great work!   -0.311243319
## 302  2023-08-07   Email    @bob_tweets   Exciting news!   0.244900235
## 303  2023-08-07   Slack   alice@example    Great work!    0.580541194
## 304  2023-08-07   Slack    @bob_tweets  Need assistance   0.251102221
## 305  2023-08-07   Slack    dave@example Hello everyone!   0.747580624
## 306  2023-08-07   Slack    @bob_tweets  Need assistance  -0.846264025
## 307  2023-08-07   Slack    dave@example Hello everyone!   0.593321668
## 308  2023-08-07 Twitter    @erin_tweets    Great work!   -0.597466531
## 309  2023-08-07   Slack    @bob_tweets  Hello everyone!  -0.160779689
## 310  2023-08-07   Slack    @bob_tweets    Fun weekend!   -0.511013610
## 311  2023-08-07 Twitter    @bob_tweets     Great work!   -0.389785778
## 312  2023-08-07   Slack    @bob_tweets     Great work!    0.872962321
## 313  2023-08-07 Twitter    @bob_tweets     Great work!   -0.548428072
## 314  2023-08-07   Email    @bob_tweets    Fun weekend!    0.079245736
## 315  2023-08-07   Slack    carol_slack     Great work!    0.937586371
## 316  2023-08-07   Slack    @bob_tweets     Great work!    0.170066014
## 317  2023-08-07   Slack   alice@example   Fun weekend!    0.844455994
## 318  2023-08-07   Slack    carol_slack   Exciting news!   0.186763622
## 319  2023-08-08   Slack    @erin_tweets Need assistance  -0.879413284
## 320  2023-08-08   Email    @bob_tweets  Need assistance   0.115187556
## 321  2023-08-08   Email    carol_slack    Team meeting    0.213498762
## 322  2023-08-08 Twitter    @frank_chat  Hello everyone!  -0.081353148
## 323  2023-08-08   Email    carol_slack    Fun weekend!    0.670605208
## 324  2023-08-08   Email    dave@example Need assistance   0.084778340
## 325  2023-08-08   Slack    carol_slack   Exciting news!  -0.388513986
## 326  2023-08-08   Slack    @erin_tweets    Great work!   -0.410223121
## 327  2023-08-08   Email   alice@example  Exciting news!  -0.007040349
## 328  2023-08-08 Twitter   alice@example Hello everyone!   0.223401716
## 329  2023-08-08   Email   alice@example    Great work!    0.222402995
## 330  2023-08-08   Slack    @bob_tweets  Hello everyone!   0.740663246
## 331  2023-08-08 Twitter    @frank_chat    Fun weekend!    0.484796492
## 332  2023-08-08   Slack    @frank_chat  Need assistance   0.963640937
## 333  2023-08-08   Email    @frank_chat   Exciting news!  -0.050068120
## 334  2023-08-08   Email    dave@example Need assistance  -0.998774239
```

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## 335   2023-08-08 Twitter   carol_slack   Fun weekend!  0.232626481
## 336   2023-08-08    Email  @erin_tweets  Exciting news! -0.847681918
## 337   2023-08-08 Twitter    @bob_tweets   Team meeting -0.024243061
## 338   2023-08-08    Email alice@example  Exciting news!  0.723251828
## 339   2023-08-08    Email   @frank_chat    Great work!  0.362224979
## 340   2023-08-08    Email   @bob_tweets Need assistance -0.249764988
## 341   2023-08-08 Twitter   @frank_chat   Fun weekend! -0.673607849
## 342   2023-08-08    Email  @erin_tweets Need assistance -0.775436828
## 343   2023-08-08    Slack  @erin_tweets Need assistance -0.461871512
## 344   2023-08-08    Email alice@example    Great work! -0.068923920
## 345   2023-08-08 Twitter   @bob_tweets    Great work!  0.564973874
## 346   2023-08-08    Email   @frank_chat Need assistance -0.992002849
## 347   2023-08-08 Twitter alice@example    Great work! -0.236779108
## 348   2023-08-08 Twitter alice@example   Team meeting  0.870818266
## 349   2023-08-08    Slack alice@example Hello everyone! -0.812013249
## 350   2023-08-08 Twitter alice@example   Fun weekend! -0.329790550
## 351   2023-08-08    Slack   carol_slack  Exciting news!  0.055117640
## 352   2023-08-08    Email  @erin_tweets   Fun weekend!  0.378708432
## 353   2023-08-08    Email  @erin_tweets   Fun weekend!  0.734125260
## 354   2023-08-08 Twitter  @erin_tweets   Fun weekend!  0.191519982
## 355   2023-08-08    Email alice@example Hello everyone! -0.666331347
## 356   2023-08-08    Slack  @erin_tweets   Team meeting  0.849549761
## 357   2023-08-08 Twitter   carol_slack  Exciting news!  0.614791796
## 358   2023-08-08    Slack  @erin_tweets Hello everyone! -0.568787924
## 359   2023-08-08    Slack  @erin_tweets Need assistance  0.593302410
## 360   2023-08-08 Twitter  dave@example Need assistance  0.911442756
## 361   2023-08-08    Slack  @erin_tweets   Team meeting  0.068864945
## 362   2023-08-08    Email   carol_slack    Great work!  0.710615378
## 363   2023-08-08    Email alice@example  Exciting news!  0.529548995
## 364   2023-08-08    Email  @erin_tweets Hello everyone! -0.064463819
## 365   2023-08-08    Email   @frank_chat   Team meeting  0.778342899
## 366   2023-08-08    Slack  @erin_tweets  Exciting news!  0.085280708
## 367   2023-08-08 Twitter alice@example    Great work!  0.552484959
## 368   2023-08-08 Twitter   @bob_tweets Need assistance -0.716619523
## 369   2023-08-08    Slack  @erin_tweets   Fun weekend!  0.172925062
## 370   2023-08-09    Slack  @erin_tweets Hello everyone! -0.932525445
## 371   2023-08-09 Twitter alice@example Need assistance  0.083300223
## 372   2023-08-09    Email  @erin_tweets  Exciting news! -0.018193701
## 373   2023-08-09 Twitter   carol_slack   Fun weekend! -0.056202481
## 374   2023-08-09 Twitter alice@example    Great work! -0.013945965
## 375   2023-08-09 Twitter alice@example    Great work!  0.432502551
## 376   2023-08-09    Email  @erin_tweets  Exciting news!  0.020394353
## 377   2023-08-09    Slack   @bob_tweets   Team meeting  0.500293179
## 378   2023-08-09 Twitter alice@example   Fun weekend! -0.391704335
## 379   2023-08-09    Slack  @erin_tweets   Fun weekend!  0.542777083
## 380   2023-08-09    Slack  @erin_tweets   Team meeting  0.268132484
## 381   2023-08-09    Slack alice@example Need assistance  0.665302936
## 382   2023-08-09    Slack  dave@example   Fun weekend! -0.358376735
## 383   2023-08-09    Slack alice@example   Fun weekend!  0.690391378
## 384   2023-08-09    Slack  dave@example   Fun weekend!  0.229193896
## 385   2023-08-09    Email  @erin_tweets   Team meeting -0.956999032
## 386   2023-08-09 Twitter alice@example Hello everyone!  0.184942272
## 387   2023-08-09    Email  @erin_tweets   Fun weekend!  0.513564137
## 388   2023-08-09 Twitter   @bob_tweets   Team meeting  0.526457346
## 389   2023-08-09    Email   @bob_tweets   Fun weekend! -0.375794835
## 390   2023-08-09    Email  @erin_tweets   Fun weekend!  0.237909144
```

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## 391  2023-08-09 Twitter alice@example Hello everyone!  0.762754925
## 392  2023-08-09    Email   @bob_tweets Hello everyone!  0.703965933
## 393  2023-08-09 Twitter alice@example  Exciting news! -0.792284821
## 394  2023-08-09 Twitter  dave@example     Great work! -0.495721815
## 395  2023-08-09    Email   @bob_tweets Hello everyone! -0.725457437
## 396  2023-08-09    Slack   carol_slack Hello everyone!  0.902016178
## 397  2023-08-09    Email  dave@example    Team meeting  0.746085706
## 398  2023-08-09    Email   @frank_chat    Fun weekend! -0.372473280
## 399  2023-08-09    Slack alice@example  Exciting news! -0.539138246
## 400  2023-08-09 Twitter   @bob_tweets  Exciting news!  0.605349668
## 401  2023-08-09    Slack   carol_slack Hello everyone! -0.289897254
## 402  2023-08-09    Email   @frank_chat Hello everyone! -0.633588556
## 403  2023-08-09 Twitter  @erin_tweets Need assistance -0.600080754
## 404  2023-08-09    Slack  @erin_tweets    Fun weekend!  0.525517232
## 405  2023-08-09    Slack   carol_slack Hello everyone!  0.346090994
## 406  2023-08-09    Email alice@example    Fun weekend!  0.893210486
## 407  2023-08-09 Twitter   @frank_chat Hello everyone!  0.649366590
## 408  2023-08-09    Email   @frank_chat    Fun weekend! -0.789119672
## 409  2023-08-09    Email  dave@example    Fun weekend!  0.698494015
## 410  2023-08-09    Slack  dave@example Need assistance  0.662048494
## 411  2023-08-09    Email  @erin_tweets Need assistance  0.953375103
## 412  2023-08-09    Email   @frank_chat    Team meeting -0.712716471
## 413  2023-08-10 Twitter   @frank_chat Hello everyone! -0.740855453
## 414  2023-08-10 Twitter  @erin_tweets     Great work!  0.199771451
## 415  2023-08-10    Slack  @erin_tweets Need assistance -0.766245456
## 416  2023-08-10 Twitter  @erin_tweets Need assistance -0.340010146
## 417  2023-08-10    Email   @bob_tweets    Team meeting -0.060755176
## 418  2023-08-10    Email   @bob_tweets     Great work!  0.924440826
## 419  2023-08-10    Email   @frank_chat Hello everyone!  0.535708998
## 420  2023-08-10    Slack  dave@example    Team meeting -0.934943126
## 421  2023-08-10    Slack   @bob_tweets Hello everyone! -0.075317414
## 422  2023-08-10    Email alice@example Need assistance -0.815106571
## 423  2023-08-10 Twitter  @erin_tweets    Fun weekend! -0.496555788
## 424  2023-08-10    Slack   @frank_chat Hello everyone!  0.142070077
## 425  2023-08-10    Slack alice@example Need assistance -0.356432681
## 426  2023-08-10    Email   @frank_chat Need assistance -0.857863282
## 427  2023-08-10    Slack alice@example     Great work!  0.804542714
## 428  2023-08-10    Slack  @erin_tweets    Team meeting  0.862134462
## 429  2023-08-10 Twitter  @erin_tweets    Team meeting  0.384202328
## 430  2023-08-10    Slack   @bob_tweets Need assistance  0.279333149
## 431  2023-08-10    Email  @erin_tweets  Exciting news!  0.679597112
## 432  2023-08-10 Twitter  @erin_tweets  Exciting news!  0.275836162
## 433  2023-08-10 Twitter   @frank_chat    Team meeting -0.976236885
## 434  2023-08-10    Email   @frank_chat     Great work!  0.533465849
## 435  2023-08-10    Slack  @erin_tweets Need assistance -0.904224418
## 436  2023-08-10 Twitter   @bob_tweets    Fun weekend!  0.346377916
## 437  2023-08-10    Slack  dave@example  Exciting news! -0.762122771
## 438  2023-08-10    Email alice@example     Great work!  0.693037350
## 439  2023-08-10 Twitter   @frank_chat     Great work!  0.214199054
## 440  2023-08-10    Email   carol_slack    Team meeting -0.970338997
## 441  2023-08-10 Twitter alice@example     Great work!  0.266619468
## 442  2023-08-10    Slack  @erin_tweets Need assistance  0.086844633
## 443  2023-08-10    Slack alice@example Need assistance -0.236316590
## 444  2023-08-10    Slack  dave@example  Exciting news!  0.532747218
## 445  2023-08-10    Slack   @bob_tweets  Exciting news!  0.027252671
## 446  2023-08-10    Email   @bob_tweets  Exciting news!  0.664575256
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## 447  2023-08-10    Email    @frank_chat Hello everyone!  0.051583528
## 448  2023-08-10    Email    @bob_tweets    Team meeting  0.253805156
## 449  2023-08-10    Slack    @frank_chat    Exciting news!  0.769946682
## 450  2023-08-10 Twitter    @frank_chat     Team meeting -0.289186294
## 451  2023-08-10 Twitter    carol_slack    Exciting news!  0.030849482
## 452  2023-08-10    Email    @frank_chat     Team meeting -0.320194449
## 453  2023-08-10    Slack alice@example     Team meeting  0.425960287
## 454  2023-08-10 Twitter    @frank_chat    Exciting news! -0.149807401
## 455  2023-08-10    Slack    @bob_tweets     Fun weekend!  0.957983019
## 456  2023-08-10 Twitter    dave@example      Great work! -0.505026447
## 457  2023-08-10    Slack   @erin_tweets Need assistance  0.037588875
## 458  2023-08-10    Slack    @bob_tweets    Exciting news! -0.873230109
## 459  2023-08-10 Twitter   @erin_tweets      Great work!  0.181200765
## 460  2023-08-10    Slack alice@example Need assistance -0.917325706
## 461  2023-08-10    Email   @erin_tweets Hello everyone!  0.063933458
## 462  2023-08-10    Slack    @frank_chat Hello everyone!  0.672468295
## 463  2023-08-10 Twitter    carol_slack      Great work!  0.268422757
## 464  2023-08-10    Email    @bob_tweets    Exciting news! -0.286527871
## 465  2023-08-10 Twitter   @erin_tweets      Great work!  0.282790715
## 466  2023-08-10    Email    @frank_chat     Fun weekend! -0.520876877
## 467  2023-08-10 Twitter    dave@example     Team meeting -0.879799920
## 468  2023-08-10    Slack    dave@example    Exciting news! -0.750027833
## 469  2023-08-10    Email    dave@example Need assistance  0.834841503
## 470  2023-08-10 Twitter    @frank_chat     Fun weekend! -0.528116655
## 471  2023-08-10    Slack    @frank_chat Need assistance  0.626154714
## 472  2023-08-10    Slack    @frank_chat Need assistance -0.198273231
## 473  2023-08-10    Slack    dave@example      Great work!  0.746216161
## 474  2023-08-10    Slack alice@example     Team meeting -0.939407335
## 475  2023-08-10 Twitter    carol_slack Need assistance  0.809991531
## 476  2023-08-10    Email    @frank_chat    Exciting news! -0.010767524
## 477  2023-08-10 Twitter    dave@example     Fun weekend! -0.363247766
## 478  2023-08-10    Email    @bob_tweets Need assistance -0.316063035
## 479  2023-08-11 Twitter    dave@example     Fun weekend!  0.824099663
## 480  2023-08-11    Email    @bob_tweets Hello everyone!  0.662486946
## 481  2023-08-11    Slack    @frank_chat Hello everyone! -0.143450806
## 482  2023-08-11 Twitter    @bob_tweets      Great work! -0.751736611
## 483  2023-08-11    Email    @frank_chat     Fun weekend!  0.874191639
## 484  2023-08-11    Slack    @bob_tweets     Team meeting -0.955364774
## 485  2023-08-11    Email    carol_slack Need assistance -0.547700667
## 486  2023-08-11    Email alice@example     Fun weekend! -0.034278538
## 487  2023-08-11    Slack    @frank_chat  Exciting news! -0.871460078
## 488  2023-08-11    Slack    dave@example Hello everyone! -0.843954970
## 489  2023-08-11 Twitter   @erin_tweets Need assistance -0.462980804
## 490  2023-08-11    Email    dave@example      Great work!  0.509797142
## 491  2023-08-11    Slack    @frank_chat Hello everyone! -0.108963726
## 492  2023-08-11    Slack alice@example     Fun weekend! -0.799520459
## 493  2023-08-11    Slack    @bob_tweets Need assistance -0.542398809
## 494  2023-08-11    Slack    carol_slack    Exciting news!  0.062969209
## 495  2023-08-11    Email    dave@example     Team meeting  0.146319367
## 496  2023-08-11 Twitter    @frank_chat     Team meeting  0.629940747
## 497  2023-08-11 Twitter    dave@example    Exciting news!  0.018387399
## 498  2023-08-11    Slack    dave@example Hello everyone!  0.879992486
## 499  2023-08-11 Twitter    @bob_tweets   Exciting news!  0.260118117
## 500  2023-08-11 Twitter    dave@example     Fun weekend!  0.124404418
## 501  2023-08-11 Twitter    @frank_chat     Fun weekend! -0.926554946
## 502  2023-08-11    Slack    dave@example Need assistance  0.930096855
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## 503  2023-08-11    Email alice@example  Exciting news! -0.901918261
## 504  2023-08-11    Email   @bob_tweets Hello everyone!  0.576369455
## 505  2023-08-11    Slack   @bob_tweets  Exciting news! -0.033773244
## 506  2023-08-11 Twitter   carol_slack     Great work!  0.910158344
## 507  2023-08-11    Slack   @frank_chat Need assistance  0.235724795
## 508  2023-08-11    Slack   @frank_chat     Great work!  0.431652104
## 509  2023-08-11    Email  @erin_tweets     Great work! -0.049498704
## 510  2023-08-11    Slack   @frank_chat    Team meeting -0.642315470
## 511  2023-08-11 Twitter  @erin_tweets    Team meeting -0.351081788
## 512  2023-08-11    Slack   @frank_chat    Team meeting -0.203160496
## 513  2023-08-11    Slack   @bob_tweets     Great work!  0.041871845
## 514  2023-08-11 Twitter   @frank_chat    Team meeting -0.303564250
## 515  2023-08-11 Twitter   carol_slack     Great work!  0.782265475
## 516  2023-08-11    Slack   @bob_tweets     Great work! -0.549234209
## 517  2023-08-11    Email   @bob_tweets     Great work! -0.539260621
## 518  2023-08-11    Slack   carol_slack    Team meeting  0.921573296
## 519  2023-08-11 Twitter alice@example Hello everyone! -0.120084892
## 520  2023-08-11    Email alice@example    Team meeting -0.641849058
## 521  2023-08-11    Slack   @frank_chat    Fun weekend!  0.312006338
## 522  2023-08-11 Twitter  @erin_tweets Need assistance -0.102778860
## 523  2023-08-11    Slack  @erin_tweets    Team meeting -0.893834382
## 524  2023-08-11    Email   carol_slack    Fun weekend!  0.355941510
## 525  2023-08-11    Email dave@example Need assistance  0.060486035
## 526  2023-08-11    Slack  @erin_tweets     Great work! -0.704862314
## 527  2023-08-11 Twitter   @frank_chat Hello everyone!  0.807257727
## 528  2023-08-12 Twitter dave@example    Team meeting -0.786887704
## 529  2023-08-12    Slack   @frank_chat    Fun weekend!  0.519153008
## 530  2023-08-12    Email dave@example Need assistance  0.091942075
## 531  2023-08-12    Slack   @frank_chat Hello everyone! -0.219064676
## 532  2023-08-12    Slack dave@example    Fun weekend! -0.285561244
## 533  2023-08-12 Twitter   carol_slack     Great work!  0.407506729
## 534  2023-08-12 Twitter   carol_slack Need assistance -0.435741366
## 535  2023-08-12 Twitter dave@example Hello everyone!  0.278570379
## 536  2023-08-12    Slack   carol_slack     Great work! -0.733910211
## 537  2023-08-12 Twitter   @bob_tweets  Exciting news! -0.608554570
## 538  2023-08-12    Email  @erin_tweets  Exciting news! -0.260005387
## 539  2023-08-12    Slack alice@example    Fun weekend!  0.226010282
## 540  2023-08-12    Email   @bob_tweets Need assistance -0.042491458
## 541  2023-08-12 Twitter alice@example Hello everyone!  0.532433989
## 542  2023-08-12    Slack   @frank_chat Need assistance -0.611636332
## 543  2023-08-12 Twitter dave@example     Great work!  0.195303030
## 544  2023-08-12 Twitter   @bob_tweets    Team meeting  0.265132846
## 545  2023-08-12    Email alice@example    Team meeting  0.774573303
## 546  2023-08-12    Email   @bob_tweets  Exciting news! -0.597888714
## 547  2023-08-12    Slack   carol_slack    Fun weekend!  0.608656868
## 548  2023-08-12    Email dave@example    Fun weekend!  0.043927317
## 549  2023-08-12 Twitter  @erin_tweets    Team meeting  0.650313874
## 550  2023-08-12    Email   @frank_chat Need assistance -0.104900640
## 551  2023-08-12    Email dave@example     Great work!  0.480317921
## 552  2023-08-12    Email dave@example    Fun weekend!  0.650773503
## 553  2023-08-12    Slack dave@example  Exciting news!  0.563268560
## 554  2023-08-12    Slack alice@example Need assistance  0.454688824
## 555  2023-08-12    Email  @erin_tweets Need assistance  0.866607873
## 556  2023-08-12    Slack   carol_slack Need assistance -0.919222645
## 557  2023-08-12 Twitter   @bob_tweets     Great work! -0.405934577
## 558  2023-08-12    Email alice@example  Exciting news!  0.063475272
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## 559  2023-08-12 Twitter  @erin_tweets     Fun weekend!  0.038330505
## 560  2023-08-12   Email alice@example      Great work!  0.383860287
## 561  2023-08-12 Twitter alice@example   Exciting news! -0.487793705
## 562  2023-08-12   Email   @frank_chat   Exciting news!  0.777389107
## 563  2023-08-12 Twitter  dave@example  Need assistance -0.713639749
## 564  2023-08-12   Slack   carol_slack      Great work!  0.874556832
## 565  2023-08-12   Email   @frank_chat Need assistance  0.544408341
## 566  2023-08-12   Email  dave@example      Great work! -0.841218561
## 567  2023-08-12   Email   @frank_chat     Fun weekend! -0.102208237
## 568  2023-08-12   Slack   @bob_tweets     Fun weekend!  0.990166281
## 569  2023-08-12   Email alice@example   Exciting news! -0.995861550
## 570  2023-08-12   Email alice@example     Team meeting  0.255163795
## 571  2023-08-12 Twitter  @erin_tweets Need assistance -0.329706852
## 572  2023-08-12   Slack   carol_slack     Team meeting  0.504667453
## 573  2023-08-12 Twitter   @bob_tweets     Fun weekend!  0.226440192
## 574  2023-08-12   Email alice@example   Exciting news! -0.616592484
## 575  2023-08-12   Email   carol_slack     Team meeting -0.492082868
## 576  2023-08-12 Twitter   carol_slack     Team meeting  0.704733795
## 577  2023-08-12   Email   carol_slack Need assistance  0.937844194
## 578  2023-08-12 Twitter   carol_slack     Fun weekend! -0.455487390
## 579  2023-08-12   Email alice@example Need assistance  0.120129855
## 580  2023-08-12 Twitter  @erin_tweets Need assistance  0.298994374
## 581  2023-08-12   Slack   carol_slack Need assistance -0.044029484
## 582  2023-08-12 Twitter  dave@example      Great work! -0.462906254
## 583  2023-08-12 Twitter alice@example     Team meeting  0.582250814
## 584  2023-08-12   Slack  @erin_tweets Hello everyone! -0.360894154
## 585  2023-08-12 Twitter alice@example   Exciting news!  0.874988238
## 586  2023-08-13   Email alice@example Hello everyone!  0.433930994
## 587  2023-08-13   Email   @bob_tweets     Team meeting -0.092784007
## 588  2023-08-13   Slack   carol_slack Hello everyone!  0.675182751
## 589  2023-08-13   Slack   @bob_tweets      Great work! -0.443448592
## 590  2023-08-13   Slack alice@example      Great work!  0.480868685
## 591  2023-08-13 Twitter  dave@example     Fun weekend!  0.986894567
## 592  2023-08-13 Twitter alice@example Need assistance  0.119616441
## 593  2023-08-13   Email  dave@example Need assistance -0.834047724
## 594  2023-08-13 Twitter   @bob_tweets      Great work! -0.705626460
## 595  2023-08-13 Twitter alice@example     Fun weekend! -0.958858334
## 596  2023-08-13 Twitter alice@example Hello everyone!  0.752351641
## 597  2023-08-13   Slack   @frank_chat   Exciting news!  0.443950114
## 598  2023-08-13   Slack  @erin_tweets Need assistance -0.514785561
## 599  2023-08-13 Twitter   @frank_chat Hello everyone! -0.369747002
## 600  2023-08-13   Slack   carol_slack   Exciting news!  0.474910577
## 601  2023-08-13   Email   carol_slack   Exciting news!  0.991050147
## 602  2023-08-13   Email   carol_slack   Exciting news! -0.930242309
## 603  2023-08-13 Twitter alice@example     Team meeting  0.892404643
## 604  2023-08-13 Twitter   @bob_tweets Need assistance  0.408644735
## 605  2023-08-13   Email  @erin_tweets Hello everyone! -0.939573104
## 606  2023-08-13 Twitter   @frank_chat   Exciting news!  0.368110256
## 607  2023-08-13 Twitter   @bob_tweets Need assistance -0.883181106
## 608  2023-08-13   Slack   carol_slack      Great work! -0.947211589
## 609  2023-08-13 Twitter   @frank_chat Hello everyone! -0.426096413
## 610  2023-08-13 Twitter   carol_slack   Exciting news!  0.771407587
## 611  2023-08-13 Twitter  @erin_tweets      Great work! -0.956337988
## 612  2023-08-13   Email  @erin_tweets     Fun weekend!  0.496487776
## 613  2023-08-13 Twitter  @erin_tweets      Great work!  0.515643027
## 614  2023-08-13 Twitter alice@example      Great work! -0.026141260
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## 615  2023-08-13    Email alice@example Hello everyone!  0.042741961
## 616  2023-08-13  Twitter  dave@example     Fun weekend! -0.042934414
## 617  2023-08-13  Twitter    @frank_chat    Team meeting -0.877922161
## 618  2023-08-13    Slack alice@example Need assistance -0.100954488
## 619  2023-08-13    Slack    carol_slack Need assistance  0.886342321
## 620  2023-08-13    Slack alice@example    Team meeting -0.493501368
## 621  2023-08-13    Email    @frank_chat Need assistance  0.935812009
## 622  2023-08-13  Twitter    @frank_chat Hello everyone! -0.694118693
## 623  2023-08-13    Slack   @erin_tweets Need assistance -0.544543609
## 624  2023-08-13    Slack    carol_slack      Great work!  0.460303653
## 625  2023-08-13    Email  dave@example      Great work!  0.550955762
## 626  2023-08-13    Email    @frank_chat     Great work! -0.693289580
## 627  2023-08-13    Slack  dave@example Hello everyone! -0.945477226
## 628  2023-08-13    Slack alice@example    Team meeting -0.927027794
## 629  2023-08-13    Email   @bob_tweets   Exciting news!  0.553149406
## 630  2023-08-13    Slack    carol_slack Hello everyone! -0.416070993
## 631  2023-08-13    Email alice@example Need assistance  0.596431601
## 632  2023-08-13    Email   @bob_tweets Hello everyone!  0.264306294
## 633  2023-08-13  Twitter  dave@example   Exciting news! -0.618614707
## 634  2023-08-13  Twitter    carol_slack     Fun weekend! -0.412842807
## 635  2023-08-13  Twitter alice@example      Great work! -0.806566573
## 636  2023-08-13    Email   @erin_tweets     Fun weekend!  0.418006041
## 637  2023-08-14    Slack    @frank_chat Need assistance  0.187954018
## 638  2023-08-14  Twitter  dave@example      Great work!  0.866824818
## 639  2023-08-14  Twitter    @frank_chat    Team meeting -0.935610580
## 640  2023-08-14  Twitter alice@example   Exciting news!  0.415267176
## 641  2023-08-14    Email   @erin_tweets     Great work!  0.891589128
## 642  2023-08-14  Twitter   @erin_tweets Hello everyone! -0.647561021
## 643  2023-08-14    Email   @bob_tweets    Team meeting -0.815906889
## 644  2023-08-14  Twitter alice@example Hello everyone! -0.892831107
## 645  2023-08-14  Twitter alice@example      Great work!  0.346799491
## 646  2023-08-14  Twitter    @frank_chat     Great work! -0.912142744
## 647  2023-08-14    Slack   @erin_tweets Hello everyone!  0.987832270
## 648  2023-08-14  Twitter alice@example    Team meeting  0.024089097
## 649  2023-08-14    Email   @erin_tweets Need assistance  0.867801995
## 650  2023-08-14    Slack   @erin_tweets     Great work! -0.518683678
## 651  2023-08-14    Slack    @frank_chat Need assistance -0.384110797
## 652  2023-08-14  Twitter   @bob_tweets     Great work! -0.970631612
## 653  2023-08-14    Email    carol_slack     Fun weekend!  0.446355308
## 654  2023-08-14  Twitter  dave@example     Fun weekend!  0.474564350
## 655  2023-08-14    Slack   @erin_tweets   Exciting news!  0.336964048
## 656  2023-08-14    Email  dave@example Need assistance -0.829999507
## 657  2023-08-14    Email alice@example Need assistance  0.043240849
## 658  2023-08-14    Slack  dave@example Hello everyone!  0.491653796
## 659  2023-08-14    Email   @erin_tweets Need assistance -0.220039924
## 660  2023-08-14    Email alice@example Need assistance  0.041204039
## 661  2023-08-14    Slack    @frank_chat Need assistance -0.920249034
## 662  2023-08-14    Slack  dave@example   Exciting news! -0.298691060
## 663  2023-08-14    Slack   @erin_tweets Need assistance  0.141076977
## 664  2023-08-14    Slack   @erin_tweets     Fun weekend! -0.259928443
## 665  2023-08-14  Twitter   @erin_tweets Need assistance -0.543064435
## 666  2023-08-14  Twitter   @erin_tweets     Great work!  0.468599080
## 667  2023-08-14  Twitter alice@example   Exciting news!  0.157755047
## 668  2023-08-14    Slack  dave@example     Great work!  0.538406652
## 669  2023-08-14  Twitter   @bob_tweets   Exciting news!  0.754322437
## 670  2023-08-14  Twitter   @bob_tweets Hello everyone!  0.250149151
```

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## 671  2023-08-14 Twitter   dave@example    Fun weekend! -0.064443091
## 672  2023-08-14 Twitter   @frank_chat     Team meeting  0.499737595
## 673  2023-08-14    Email   @bob_tweets  Hello everyone!  0.498191035
## 674  2023-08-14 Twitter   @frank_chat     Fun weekend! -0.672147054
## 675  2023-08-14    Email   @bob_tweets  Need assistance  0.330107941
## 676  2023-08-14    Email  @erin_tweets     Fun weekend! -0.835450725
## 677  2023-08-14    Email   dave@example    Fun weekend!  0.304697359
## 678  2023-08-14    Email  @erin_tweets  Hello everyone! -0.446434771
## 679  2023-08-14    Slack   @bob_tweets  Hello everyone!  0.450289166
## 680  2023-08-14 Twitter   @bob_tweets      Great work! -0.018533767
## 681  2023-08-14    Slack   @frank_chat   Exciting news! -0.054910814
## 682  2023-08-14    Email  alice@example     Great work! -0.111933967
## 683  2023-08-14    Slack  @erin_tweets  Hello everyone!  0.605556316
## 684  2023-08-14    Slack  @erin_tweets   Exciting news! -0.736287751
## 685  2023-08-14    Email   carol_slack   Exciting news!  0.596924395
## 686  2023-08-14 Twitter   dave@example  Need assistance -0.273263505
## 687  2023-08-14 Twitter    carol_slack  Need assistance  0.739025190
## 688  2023-08-14 Twitter   @bob_tweets    Exciting news!  0.671785708
## 689  2023-08-14    Email   @bob_tweets     Team meeting -0.996662613
## 690  2023-08-14 Twitter   dave@example    Fun weekend! -0.998980226
## 691  2023-08-14    Slack   @bob_tweets     Team meeting -0.709024122
## 692  2023-08-14 Twitter  alice@example     Great work! -0.652119522
## 693  2023-08-14 Twitter   @bob_tweets     Fun weekend!  0.567614020
## 694  2023-08-14 Twitter  alice@example     Great work! -0.232635738
## 695  2023-08-14    Slack  alice@example Hello everyone! -0.798660460
## 696  2023-08-14    Slack  alice@example Hello everyone! -0.691606675
## 697  2023-08-14    Email   dave@example Hello everyone! -0.359136123
## 698  2023-08-14    Email  @erin_tweets     Fun weekend!  0.035476264
## 699  2023-08-14    Email  @erin_tweets      Great work! -0.129584252
## 700  2023-08-14    Slack   dave@example   Exciting news! -0.531753783
## 701  2023-08-15    Email   @bob_tweets      Great work!  0.468266435
## 702  2023-08-15    Slack  @erin_tweets Hello everyone! -0.689319659
## 703  2023-08-15 Twitter  @erin_tweets      Great work! -0.244326655
## 704  2023-08-15 Twitter    carol_slack Hello everyone! -0.761104998
## 705  2023-08-15 Twitter  alice@example    Team meeting -0.178657859
## 706  2023-08-15 Twitter  alice@example    Fun weekend! -0.707901944
## 707  2023-08-15    Email  @erin_tweets     Fun weekend! -0.576360519
## 708  2023-08-15    Email    carol_slack  Exciting news! -0.745493084
## 709  2023-08-15 Twitter   dave@example    Fun weekend!  0.469535301
## 710  2023-08-15 Twitter   @bob_tweets     Team meeting  0.853966497
## 711  2023-08-15    Slack  alice@example    Fun weekend!  0.271711212
## 712  2023-08-15    Slack   carol_slack    Fun weekend! -0.760701751
## 713  2023-08-15    Slack   @frank_chat   Exciting news! -0.582243779
## 714  2023-08-15    Email   carol_slack  Need assistance  0.414960733
## 715  2023-08-15    Slack   @bob_tweets    Exciting news!  0.423514269
## 716  2023-08-15 Twitter   @frank_chat  Need assistance -0.639425840
## 717  2023-08-15    Slack   @bob_tweets     Team meeting -0.271451744
## 718  2023-08-15    Email   @frank_chat  Need assistance  0.385732211
## 719  2023-08-15    Email  @erin_tweets  Hello everyone! -0.598425182
## 720  2023-08-15 Twitter   dave@example     Great work!  0.435108419
## 721  2023-08-15 Twitter   @bob_tweets  Need assistance  0.373691486
## 722  2023-08-15    Slack   carol_slack  Need assistance  0.674294885
## 723  2023-08-15    Slack   dave@example Hello everyone! -0.510870771
## 724  2023-08-15    Email   dave@example Hello everyone!  0.282330315
## 725  2023-08-15    Slack   @frank_chat Hello everyone!  0.058449768
## 726  2023-08-15 Twitter  alice@example   Exciting news!  0.153143482
```

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## 727  2023-08-15 Twitter   carol_slack    Team meeting  0.498292263
## 728  2023-08-15   Email   @frank_chat     Great work!  0.120376800
## 729  2023-08-15   Slack   @erin_tweets    Team meeting  0.457860831
## 730  2023-08-15 Twitter   @frank_chat  Hello everyone!  0.384222084
## 731  2023-08-15   Email  alice@example    Team meeting  0.176413531
## 732  2023-08-15   Email   @frank_chat  Need assistance -0.438784983
## 733  2023-08-15   Slack   @frank_chat     Great work!  0.960373470
## 734  2023-08-15   Email  alice@example Need assistance -0.264464825
## 735  2023-08-15 Twitter   @frank_chat  Need assistance  0.344264537
## 736  2023-08-15   Email   carol_slack    Fun weekend! -0.141636565
## 737  2023-08-15 Twitter  dave@example    Fun weekend!  0.345517721
## 738  2023-08-15   Slack   @frank_chat    Fun weekend!  0.816346027
## 739  2023-08-15 Twitter   @bob_tweets    Team meeting -0.144443278
## 740  2023-08-15 Twitter  @erin_tweets Need assistance  0.599532404
## 741  2023-08-15 Twitter  @erin_tweets Hello everyone!  0.768580468
## 742  2023-08-15   Email  dave@example Need assistance  0.773382573
## 743  2023-08-15   Email   @bob_tweets    Team meeting -0.801572199
## 744  2023-08-15 Twitter  @erin_tweets Need assistance  0.787741330
## 745  2023-08-15   Slack  dave@example     Great work! -0.481857921
## 746  2023-08-15   Slack   @frank_chat Hello everyone! -0.508614742
## 747  2023-08-15 Twitter   carol_slack    Team meeting -0.074092148
## 748  2023-08-15   Slack  @erin_tweets Hello everyone! -0.562214842
## 749  2023-08-15   Email   @frank_chat    Fun weekend!  0.535877908
## 750  2023-08-15 Twitter   carol_slack Hello everyone! -0.638266036
## 751  2023-08-15   Slack  alice@example Need assistance  0.899728119
## 752  2023-08-15 Twitter  alice@example     Great work!  0.798867194
## 753  2023-08-16 Twitter  @erin_tweets     Great work!  0.150156671
## 754  2023-08-16   Slack  alice@example  Exciting news!  0.320830711
## 755  2023-08-16 Twitter  alice@example  Exciting news!  0.927110374
## 756  2023-08-16 Twitter   @bob_tweets  Exciting news! -0.141741692
## 757  2023-08-16 Twitter  alice@example     Great work! -0.179680133
## 758  2023-08-16   Slack  @erin_tweets  Exciting news! -0.290788232
## 759  2023-08-16   Slack   @bob_tweets    Team meeting -0.774452816
## 760  2023-08-16   Email   @frank_chat Hello everyone!  0.997601895
## 761  2023-08-16   Slack   carol_slack Hello everyone!  0.529127310
## 762  2023-08-16   Email   @frank_chat    Fun weekend! -0.584208118
## 763  2023-08-16 Twitter  @erin_tweets  Exciting news! -0.265161676
## 764  2023-08-16   Slack  alice@example Need assistance  0.669039086
## 765  2023-08-16   Email  alice@example    Team meeting  0.858062949
## 766  2023-08-16   Slack  alice@example Need assistance  0.445466304
## 767  2023-08-16 Twitter   @bob_tweets    Fun weekend! -0.533522750
## 768  2023-08-16   Slack   @bob_tweets    Team meeting  0.120248223
## 769  2023-08-16   Email   carol_slack     Great work!  0.306993762
## 770  2023-08-16 Twitter  dave@example     Great work!  0.827052074
## 771  2023-08-16   Email   carol_slack     Great work! -0.045373839
## 772  2023-08-16 Twitter  dave@example Need assistance -0.194268964
## 773  2023-08-16   Email   @frank_chat  Exciting news!  0.305391626
## 774  2023-08-16   Slack   @frank_chat    Team meeting -0.143542713
## 775  2023-08-16   Slack   carol_slack Hello everyone! -0.321912185
## 776  2023-08-16   Slack  dave@example  Exciting news!  0.461496073
## 777  2023-08-16 Twitter   carol_slack  Exciting news! -0.875286373
## 778  2023-08-16 Twitter   carol_slack Need assistance -0.375053814
## 779  2023-08-16   Email  alice@example  Exciting news! -0.858994203
## 780  2023-08-16   Email  @erin_tweets    Fun weekend! -0.928850479
## 781  2023-08-16 Twitter  dave@example    Fun weekend! -0.286604216
## 782  2023-08-16   Email  alice@example     Great work!  0.360768258
```

```
## 783   2023-08-16    Email    dave@example Need assistance -0.014521594
## 784   2023-08-16    Email     @frank_chat    Team meeting -0.287118956
## 785   2023-08-16    Email     @frank_chat Need assistance  0.343977793
## 786   2023-08-16   Twitter   @erin_tweets Hello everyone!  0.806540163
## 787   2023-08-16    Email     @frank_chat    Fun weekend!  0.402509230
## 788   2023-08-16   Twitter   @erin_tweets    Team meeting -0.674190784
## 789   2023-08-16    Slack    dave@example Need assistance  0.484403751
## 790   2023-08-16    Email     carol_slack Hello everyone! -0.029610693
## 791   2023-08-16    Slack    dave@example    Fun weekend!  0.438361928
## 792   2023-08-16    Email     @frank_chat    Fun weekend! -0.552409418
## 793   2023-08-16    Slack     @frank_chat    Team meeting -0.933677876
## 794   2023-08-16    Slack     @frank_chat Hello everyone! -0.878399170
## 795   2023-08-16   Twitter   alice@example  Exciting news!  0.696509592
## 796   2023-08-16    Email     carol_slack Hello everyone! -0.851052538
## 797   2023-08-16   Twitter    @bob_tweets     Great work! -0.674055766
## 798   2023-08-16    Slack     @frank_chat    Fun weekend!  0.269629325
## 799   2023-08-16    Slack    @erin_tweets  Exciting news! -0.113282133
## 800   2023-08-16   Twitter   dave@example    Team meeting  0.796688539
## 801   2023-08-16    Email     @bob_tweets     Great work! -0.351176404
## 802   2023-08-16    Email     @bob_tweets Need assistance -0.459899545
## 803   2023-08-17   Twitter   alice@example    Team meeting -0.189370414
## 804   2023-08-17   Twitter    @bob_tweets Need assistance -0.493062959
## 805   2023-08-17    Email     @frank_chat    Team meeting  0.932789830
## 806   2023-08-17    Email     @bob_tweets    Fun weekend!  0.825692308
## 807   2023-08-17    Slack    alice@example  Exciting news! -0.301641050
## 808   2023-08-17    Email     @bob_tweets    Team meeting -0.467768930
## 809   2023-08-17   Twitter    @bob_tweets  Exciting news!  0.953910344
## 810   2023-08-17   Twitter    @frank_chat Hello everyone!  0.951721462
## 811   2023-08-17   Twitter    carol_slack    Fun weekend!  0.172285239
## 812   2023-08-17    Email    @erin_tweets     Great work!  0.709753431
## 813   2023-08-17    Email    dave@example    Fun weekend!  0.420022254
## 814   2023-08-17   Twitter   @erin_tweets    Fun weekend! -0.417790642
## 815   2023-08-17    Email    dave@example Hello everyone!  0.976894801
## 816   2023-08-17    Slack    alice@example     Great work!  0.652192219
## 817   2023-08-17   Twitter   dave@example    Fun weekend!  0.775130778
## 818   2023-08-17    Email     @frank_chat     Great work! -0.951084716
## 819   2023-08-17   Twitter    carol_slack Need assistance -0.806338225
## 820   2023-08-17   Twitter   @erin_tweets Hello everyone!  0.299843722
## 821   2023-08-17    Email    @erin_tweets    Team meeting  0.863822790
## 822   2023-08-17   Twitter   alice@example     Great work! -0.641657173
## 823   2023-08-17    Slack     carol_slack Need assistance -0.750471560
## 824   2023-08-17   Twitter    @frank_chat    Team meeting -0.232014328
## 825   2023-08-17   Twitter    @frank_chat    Fun weekend! -0.624432764
## 826   2023-08-17    Email    dave@example    Fun weekend! -0.173903828
## 827   2023-08-17   Twitter   alice@example Hello everyone!  0.582868762
## 828   2023-08-17   Twitter   alice@example Hello everyone! -0.605858998
## 829   2023-08-17    Email     @frank_chat    Team meeting -0.229243480
## 830   2023-08-17   Twitter   dave@example Need assistance -0.035525655
## 831   2023-08-17   Twitter   @erin_tweets Hello everyone! -0.606922586
## 832   2023-08-17    Slack     carol_slack    Fun weekend!  0.169502832
## 833   2023-08-17    Slack     @frank_chat     Great work! -0.700269639
## 834   2023-08-17    Slack    alice@example     Great work! -0.853163924
## 835   2023-08-17   Twitter    @frank_chat    Team meeting -0.608078998
## 836   2023-08-17   Twitter    carol_slack Need assistance -0.065970336
## 837   2023-08-17    Email     @frank_chat  Exciting news! -0.770805090
## 838   2023-08-17   Twitter    @bob_tweets     Great work!  0.401612313
```

```
## 839   2023-08-17 Twitter  alice@example   Exciting news!  0.968932204
## 840   2023-08-17    Email  dave@example    Team meeting   -0.047711935
## 841   2023-08-17 Twitter   carol_slack  Need assistance  -0.101536875
## 842   2023-08-17 Twitter   carol_slack   Exciting news!  -0.237763272
## 843   2023-08-17 Twitter  @erin_tweets    Team meeting   -0.666378770
## 844   2023-08-17    Email   @frank_chat Need assistance  -0.837423526
## 845   2023-08-17    Slack  @erin_tweets Hello everyone!   0.937329018
## 846   2023-08-18    Email   @frank_chat    Fun weekend!   0.380196611
## 847   2023-08-18    Email  alice@example    Fun weekend!   0.233402089
## 848   2023-08-18 Twitter   @frank_chat    Team meeting   -0.004460444
## 849   2023-08-18    Email   @frank_chat    Fun weekend!  -0.569811309
## 850   2023-08-18    Slack   @bob_tweets    Fun weekend!  -0.558302570
## 851   2023-08-18    Email  dave@example Need assistance  -0.770186925
## 852   2023-08-18 Twitter   @bob_tweets  Need assistance   0.083397951
## 853   2023-08-18    Email   @bob_tweets    Fun weekend!  -0.558283084
## 854   2023-08-18 Twitter   @frank_chat   Exciting news!  -0.445320373
## 855   2023-08-18 Twitter  dave@example Need assistance  -0.577738499
## 856   2023-08-18    Email  alice@example Hello everyone!  -0.024430894
## 857   2023-08-18    Email  @erin_tweets Need assistance  -0.240649289
## 858   2023-08-18    Email   carol_slack    Team meeting   0.343653605
## 859   2023-08-18    Email   @bob_tweets   Exciting news!   0.497974098
## 860   2023-08-18 Twitter   @frank_chat   Exciting news!   0.784590872
## 861   2023-08-18    Slack  @erin_tweets    Team meeting   0.353438236
## 862   2023-08-18 Twitter   carol_slack   Exciting news!   0.222249684
## 863   2023-08-18    Email  alice@example  Exciting news!   0.422912350
## 864   2023-08-18    Slack   @bob_tweets Need assistance  -0.754348847
## 865   2023-08-18    Slack  @erin_tweets  Exciting news!  -0.537696546
## 866   2023-08-18    Email   carol_slack  Exciting news!  -0.978982675
## 867   2023-08-18 Twitter  dave@example Need assistance  -0.613432584
## 868   2023-08-18    Email   @frank_chat    Fun weekend!   0.061621126
## 869   2023-08-18 Twitter  dave@example  Exciting news!  -0.209318373
## 870   2023-08-18    Slack  dave@example    Team meeting   -0.718652172
## 871   2023-08-18 Twitter  dave@example    Team meeting   -0.012694929
## 872   2023-08-18    Slack  dave@example    Fun weekend!  -0.566594298
## 873   2023-08-18 Twitter  @erin_tweets Need assistance   0.116931847
## 874   2023-08-18    Slack  @erin_tweets  Exciting news!  -0.719712700
## 875   2023-08-18 Twitter   @bob_tweets   Exciting news!   0.290797958
## 876   2023-08-18    Email  @erin_tweets Need assistance   0.171319252
## 877   2023-08-18    Email  dave@example Hello everyone!   0.978220029
## 878   2023-08-18    Slack   @frank_chat    Team meeting   -0.134102609
## 879   2023-08-18    Email  alice@example Need assistance   0.275121063
## 880   2023-08-18 Twitter   @bob_tweets    Fun weekend!   0.590919483
## 881   2023-08-18 Twitter   @frank_chat    Team meeting   0.818109252
## 882   2023-08-18    Email  dave@example  Exciting news!  -0.768564025
## 883   2023-08-18 Twitter   carol_slack Need assistance  -0.107154121
## 884   2023-08-18    Slack   @bob_tweets    Fun weekend!   0.567603516
## 885   2023-08-18    Email   carol_slack  Exciting news!  -0.546088908
## 886   2023-08-18    Email   carol_slack Need assistance   0.121493359
## 887   2023-08-18    Slack   @bob_tweets Hello everyone!  -0.164491392
## 888   2023-08-18    Slack   @bob_tweets    Team meeting   0.403409261
## 889   2023-08-18    Slack  @erin_tweets Hello everyone!  -0.395961934
## 890   2023-08-18    Slack  alice@example    Great work!  -0.114574431
## 891   2023-08-18 Twitter  alice@example    Fun weekend!   0.977650215
## 892   2023-08-18 Twitter  dave@example     Great work!  -0.160749977
## 893   2023-08-18 Twitter   @bob_tweets    Fun weekend!   0.866654206
## 894   2023-08-18    Slack   @bob_tweets    Fun weekend!  -0.898072343
```

```
## 895  2023-08-18    Slack    @bob_tweets    Team meeting  0.192284770
## 896  2023-08-18    Slack  alice@example    Fun weekend! -0.088887415
## 897  2023-08-18  Twitter  alice@example  Hello everyone! -0.936083395
## 898  2023-08-18    Email    @bob_tweets  Need assistance  0.453627230
## 899  2023-08-18  Twitter    @bob_tweets     Great work! -0.839583620
## 900  2023-08-18    Email  alice@example    Team meeting -0.377541550
## 901  2023-08-18    Slack    @frank_chat     Great work! -0.071027102
## 902  2023-08-19  Twitter    @frank_chat  Need assistance  0.481529109
## 903  2023-08-19    Email    dave@example    Exciting news!  0.821827833
## 904  2023-08-19    Email    dave@example    Exciting news! -0.533024813
## 905  2023-08-19    Email   @erin_tweets    Team meeting -0.757670477
## 906  2023-08-19    Email  alice@example    Exciting news!  0.401543677
## 907  2023-08-19    Slack    dave@example     Great work! -0.526421044
## 908  2023-08-19    Slack    @bob_tweets  Hello everyone!  0.679174718
## 909  2023-08-19    Slack    @bob_tweets  Hello everyone! -0.558468956
## 910  2023-08-19  Twitter    @bob_tweets     Great work!  0.521462946
## 911  2023-08-19    Email    dave@example    Exciting news!  0.324592507
## 912  2023-08-19    Email   @erin_tweets    Team meeting -0.823923888
## 913  2023-08-19    Slack   @erin_tweets     Great work!  0.037533612
## 914  2023-08-19    Email    dave@example    Team meeting  0.087382621
## 915  2023-08-19    Slack  alice@example    Team meeting -0.249497572
## 916  2023-08-19    Email    @frank_chat  Hello everyone!  0.179850068
## 917  2023-08-19    Email  alice@example     Great work!  0.301563812
## 918  2023-08-19    Slack    @bob_tweets  Hello everyone!  0.487545231
## 919  2023-08-19  Twitter    @frank_chat    Fun weekend! -0.371842024
## 920  2023-08-19  Twitter    dave@example    Team meeting -0.284638313
## 921  2023-08-19    Email    carol_slack    Fun weekend!  0.892766985
## 922  2023-08-19  Twitter    carol_slack    Team meeting  0.317846402
## 923  2023-08-19  Twitter  alice@example  Need assistance  0.143810244
## 924  2023-08-19  Twitter   @erin_tweets    Team meeting  0.945942261
## 925  2023-08-19  Twitter  alice@example    Fun weekend! -0.111042333
## 926  2023-08-19    Email    @frank_chat    Team meeting -0.943049938
## 927  2023-08-19    Email    dave@example     Great work! -0.336303487
## 928  2023-08-19    Email   @erin_tweets    Fun weekend!  0.149510738
## 929  2023-08-19  Twitter  alice@example    Team meeting -0.299451457
## 930  2023-08-19    Email    @bob_tweets    Team meeting  0.855612874
## 931  2023-08-19  Twitter    dave@example  Need assistance -0.115035673
## 932  2023-08-19    Slack   @erin_tweets     Great work! -0.725357866
## 933  2023-08-19  Twitter    @frank_chat    Exciting news!  0.388266448
## 934  2023-08-19  Twitter    carol_slack    Team meeting  0.578111817
## 935  2023-08-19  Twitter  alice@example  Hello everyone! -0.378329881
## 936  2023-08-19  Twitter    @bob_tweets  Hello everyone!  0.420571170
## 937  2023-08-19  Twitter    @frank_chat    Exciting news!  0.221380584
## 938  2023-08-19    Slack    @frank_chat    Team meeting -0.887928675
## 939  2023-08-19    Email    @frank_chat     Great work!  0.463513046
## 940  2023-08-19    Email  alice@example  Hello everyone! -0.040838550
## 941  2023-08-19    Email   @erin_tweets     Great work!  0.570171806
## 942  2023-08-19    Email    dave@example    Team meeting -0.528815492
## 943  2023-08-19  Twitter   @erin_tweets    Exciting news!  0.638825124
## 944  2023-08-19    Slack    @frank_chat    Team meeting -0.472906698
## 945  2023-08-19    Slack    dave@example    Team meeting -0.789976987
## 946  2023-08-19    Slack  alice@example    Exciting news!  0.502961815
## 947  2023-08-19  Twitter  alice@example  Hello everyone!  0.857508211
## 948  2023-08-20    Email    dave@example    Team meeting  0.617879979
## 949  2023-08-20    Email    carol_slack    Team meeting  0.909817838
## 950  2023-08-20    Email  alice@example     Great work!  0.062977130
```

```
## 951  2023-08-20 Twitter alice@example Hello everyone!  0.482187657
## 952  2023-08-20    Email alice@example Hello everyone! -0.166448134
## 953  2023-08-20    Email   @bob_tweets   Exciting news!  0.931368547
## 954  2023-08-20    Slack alice@example      Great work! -0.459148118
## 955  2023-08-20    Slack  dave@example   Exciting news!  0.617734990
## 956  2023-08-20 Twitter alice@example   Exciting news!  0.310656996
## 957  2023-08-20 Twitter   carol_slack      Great work!  0.544291852
## 958  2023-08-20    Slack   @bob_tweets      Great work!  0.203791809
## 959  2023-08-20    Slack alice@example   Exciting news!  0.685212519
## 960  2023-08-20 Twitter  @erin_tweets      Great work! -0.404516522
## 961  2023-08-20    Slack  dave@example   Exciting news! -0.476039052
## 962  2023-08-20    Email   @bob_tweets Need assistance -0.299717092
## 963  2023-08-20 Twitter  @erin_tweets      Great work! -0.743658878
## 964  2023-08-20 Twitter   @frank_chat    Team meeting  0.659773430
## 965  2023-08-20    Slack alice@example   Exciting news! -0.415822029
## 966  2023-08-20 Twitter alice@example     Fun weekend!  0.280627117
## 967  2023-08-20    Email   @bob_tweets    Team meeting -0.801527123
## 968  2023-08-20    Slack  @erin_tweets    Team meeting -0.134665603
## 969  2023-08-20    Email   carol_slack    Team meeting  0.078007510
## 970  2023-08-20    Slack  dave@example      Great work!  0.814900840
## 971  2023-08-20    Email  @erin_tweets   Exciting news! -0.195798854
## 972  2023-08-20    Slack  @erin_tweets     Fun weekend!  0.604609676
## 973  2023-08-20 Twitter   @bob_tweets     Fun weekend!  0.236553716
## 974  2023-08-20    Email  dave@example    Team meeting  0.985037738
## 975  2023-08-20    Slack   carol_slack   Exciting news!  0.221250645
## 976  2023-08-20 Twitter  dave@example     Fun weekend! -0.818538250
## 977  2023-08-20 Twitter  @erin_tweets      Great work! -0.349391197
## 978  2023-08-20    Email   carol_slack      Great work!  0.680826971
## 979  2023-08-20    Slack   carol_slack      Great work! -0.574539005
## 980  2023-08-20 Twitter   @frank_chat    Team meeting -0.476500273
## 981  2023-08-20 Twitter  @erin_tweets    Team meeting  0.341763970
## 982  2023-08-20    Slack alice@example Hello everyone! -0.863882122
## 983  2023-08-20    Email   @frank_chat    Team meeting -0.993759494
## 984  2023-08-20 Twitter alice@example     Fun weekend! -0.436848105
## 985  2023-08-20 Twitter  dave@example   Exciting news! -0.542942689
## 986  2023-08-20    Slack   @bob_tweets    Team meeting -0.118006961
## 987  2023-08-20    Slack   carol_slack      Great work! -0.595158034
## 988  2023-08-20    Slack   @frank_chat      Great work!  0.606102686
## 989  2023-08-20    Email alice@example     Fun weekend!  0.851679420
## 990  2023-08-20    Email   @frank_chat    Team meeting  0.560076173
## 991  2023-08-20    Slack   carol_slack     Fun weekend!  0.231915887
## 992  2023-08-20    Slack   @bob_tweets Hello everyone!  0.520647362
## 993  2023-08-20    Email   carol_slack    Team meeting  0.082343857
## 994  2023-08-20 Twitter   @frank_chat   Exciting news!  0.307898677
## 995  2023-08-20 Twitter  dave@example      Great work! -0.124954135
## 996  2023-08-20    Email  dave@example    Team meeting -0.075425136
## 997  2023-08-20    Email alice@example Hello everyone! -0.555095884
## 998  2023-08-20    Slack  @erin_tweets Hello everyone! -0.357717138
## 999  2023-08-20 Twitter   carol_slack Hello everyone!  0.640248996
## 1000 2023-08-20 Twitter  @erin_tweets   Exciting news!  0.131818828
```

Question-4: Distinct Discovery

Apply the distinct command to find the unique senders in the "comm_data" dataframe.

Solution:

```
# Enter code here
comm_data %>%
  distinct(sender)
```

```
##          sender
## 1  dave@example
## 2   @bob_tweets
## 3   @frank_chat
## 4  @erin_tweets
## 5 alice@example
## 6   carol_slack
```

Question-5: Sender Stats

Employ the count and group_by commands to generate a summary table that shows the count of messages sent by each sender in the "comm_data" dataframe.

Solution:

```
# Enter code here
comm_data %>%
  group_by(sender) %>%
  summarise(count = n())
```

```
## # A tibble: 6 × 2
##   sender        count
##   <chr>         <int>
## 1 @bob_tweets     179
## 2 @erin_tweets    171
## 3 @frank_chat     174
## 4 alice@example   180
## 5 carol_slack     141
## 6 dave@example    155
```

Question-6: Channel Chatter Insights

Using the group_by and count commands, create a summary table that displays the count of messages sent through each communication channel in the "comm_data" dataframe.

Solution:

```
# Enter code here
comm_data %>%
  group_by(channel) %>%
  summarise(count = n())
```

```
## # A tibble: 3 × 2
##   channel count
##   <chr>   <int>
## 1 Email     331
## 2 Slack     320
## 3 Twitter   349
```

Question-7: Positive Pioneers

Utilize the filter, select, and arrange commands to identify the top three senders with the highest average positive sentiment scores. Display their usernames and corresponding sentiment averages.

Solution:

```
# Enter code here
comm_data %>%
  select(sender, sentiment) %>%
  filter(sentiment > 0) %>%
  group_by(sender) %>%
  summarise(avg_sentiment = mean(sentiment)) %>%
  arrange(desc(avg_sentiment)) %>%
  slice(1:3)
```

```
## # A tibble: 3 × 2
##   sender          avg_sentiment
##   <chr>                   <dbl>
## 1 dave@example            0.541
## 2 @frank_chat             0.528
## 3 alice@example           0.493
```

Question-8: Message Mood Over Time

With the group_by, summarise, and arrange commands, calculate the average sentiment score for each day in the "comm_data" dataframe.

Solution:

```
# Enter code here
comm_data %>%
  group_by(date) %>%
  summarise(avg_sentiment_score = mean(sentiment)) %>%
  arrange(date)
```

```
## # A tibble: 20 × 2
##    date       avg_sentiment_score
##    <chr>                    <dbl>
##  1 2023-08-01             -0.0616
##  2 2023-08-02              0.136
##  3 2023-08-03              0.107
##  4 2023-08-04             -0.0510
##  5 2023-08-05              0.193
##  6 2023-08-06             -0.0144
##  7 2023-08-07              0.0364
##  8 2023-08-08              0.0666
##  9 2023-08-09              0.0997
## 10 2023-08-10             -0.0254
## 11 2023-08-11             -0.0340
## 12 2023-08-12              0.0668
## 13 2023-08-13             -0.0604
## 14 2023-08-14             -0.0692
## 15 2023-08-15              0.0617
## 16 2023-08-16             -0.0220
## 17 2023-08-17             -0.0191
## 18 2023-08-18             -0.0760
## 19 2023-08-19              0.0551
## 20 2023-08-20              0.0608
```

Question-9: Selective Sentiments

Use the filter and select commands to extract messages with a negative sentiment score (less than 0) and create a new dataframe.

Solution:

```
# Enter code here
comm_data %>%
  filter(sentiment < 0) %>%
  select(message, sentiment)
```

```
##              message   sentiment
## 1   Hello everyone! -0.143450806
## 2   Need assistance -0.108376242
## 3   Hello everyone! -0.740855453
## 4   Hello everyone! -0.187917918
## 5   Hello everyone! -0.932525445
## 6   Need assistance -0.879413284
## 7       Great work! -0.751736611
## 8      Team meeting -0.786887704
## 9      Fun weekend! -0.539049788
## 10    Exciting news! -0.141741692
## 11     Team meeting -0.189370414
## 12  Need assistance -0.493062959
## 13      Great work! -0.179680133
## 14     Team meeting -0.092784007
## 15     Team meeting -0.955364774
## 16  Need assistance -0.766245456
## 17  Need assistance -0.547700667
## 18   Exciting news! -0.415566467
## 19      Great work! -0.579760317
## 20   Exciting news! -0.290788232
## 21  Need assistance -0.340010146
## 22      Great work! -0.443448592
## 23     Team meeting -0.774452816
## 24  Hello everyone! -0.882707532
## 25  Hello everyone! -0.689319659
## 26  Hello everyone! -0.219064676
## 27     Team meeting -0.004460444
## 28     Team meeting -0.935610580
## 29  Hello everyone! -0.452905738
## 30  Need assistance -0.834047724
## 31  Need assistance -0.195926677
## 32     Fun weekend! -0.285561244
## 33     Team meeting -0.060755176
## 34     Fun weekend! -0.569811309
## 35   Exciting news! -0.018193701
## 36   Exciting news! -0.301641050
## 37      Great work! -0.244326655
## 38  Hello everyone! -0.761104998
## 39   Exciting news! -0.408464086
## 40     Fun weekend! -0.584208118
## 41     Team meeting -0.178657859
## 42      Great work! -0.329095908
## 43     Fun weekend! -0.707901944
## 44  Hello everyone! -0.166448134
## 45   Exciting news! -0.533024813
## 46  Need assistance -0.356371285
## 47     Team meeting -0.467768930
## 48     Fun weekend! -0.056202481
## 49     Team meeting -0.757670477
## 50   Exciting news! -0.265161676
## 51   Exciting news! -0.822780307
## 52  Need assistance -0.680233249
## 53  Hello everyone! -0.647561021
## 54      Great work! -0.705626460
```

```
## 55   Hello everyone! -0.050532605
## 56       Great work! -0.459148118
## 57      Fun weekend! -0.034278538
## 58       Great work! -0.013945965
## 59     Team meeting -0.934943126
## 60      Fun weekend! -0.474169046
## 61      Team meeting -0.815906889
## 62   Exciting news! -0.200843529
## 63      Fun weekend! -0.958858334
## 64      Fun weekend! -0.558302570
## 65   Need assistance -0.435741366
## 66   Need assistance -0.770186925
## 67    Exciting news! -0.871460078
## 68   Hello everyone! -0.843954970
## 69      Fun weekend! -0.576360519
## 70   Need assistance -0.462980804
## 71    Exciting news! -0.745493084
## 72   Hello everyone! -0.075317414
## 73   Need assistance -0.815106571
## 74       Great work! -0.526421044
## 75      Team meeting -0.202094683
## 76      Fun weekend! -0.390309056
## 77       Great work! -0.733910211
## 78      Fun weekend! -0.496555788
## 79   Hello everyone! -0.892831107
## 80   Hello everyone! -0.108963726
## 81      Fun weekend! -0.799520459
## 82      Fun weekend! -0.558283084
## 83    Exciting news! -0.608554570
## 84      Team meeting -0.526283488
## 85   Need assistance -0.635092593
## 86       Great work! -0.446627778
## 87      Fun weekend! -0.149422837
## 88       Great work! -0.630844017
## 89      Fun weekend! -0.533522750
## 90    Exciting news! -0.398672424
## 91    Exciting news! -0.686074989
## 92   Need assistance -0.514785561
## 93    Exciting news! -0.445320373
## 94    Exciting news! -0.433124611
## 95   Hello everyone! -0.369747002
## 96       Great work! -0.912142744
## 97      Fun weekend! -0.760701751
## 98   Hello everyone! -0.243440011
## 99      Fun weekend! -0.159573650
## 100   Exciting news! -0.260005387
## 101  Need assistance -0.356432681
## 102  Need assistance -0.577738499
## 103      Team meeting -0.767587414
## 104      Team meeting -0.014527882
## 105      Fun weekend! -0.391704335
## 106  Need assistance -0.857863282
## 107      Team meeting -0.024207670
## 108  Need assistance -0.611560303
## 109  Need assistance -0.542398809
## 110  Hello everyone! -0.940684421
```

```
## 111       Great work! -0.404516522
## 112  Exciting news! -0.476039052
## 113       Great work! -0.045373839
## 114 Need assistance -0.042491458
## 115 Hello everyone! -0.024430894
## 116 Need assistance -0.299717092
## 117 Hello everyone! -0.558468956
## 118      Team meeting -0.386754569
## 119 Hello everyone! -0.081353148
## 120 Need assistance -0.194268964
## 121      Fun weekend! -0.927836751
## 122       Great work! -0.518683678
## 123 Need assistance -0.240649289
## 124       Great work! -0.743658878
## 125      Team meeting -0.176315426
## 126      Team meeting -0.320228465
## 127  Exciting news! -0.582243779
## 128 Need assistance -0.384110797
## 129  Exciting news! -0.415822029
## 130       Great work! -0.970631612
## 131      Team meeting -0.823923888
## 132 Need assistance -0.611636332
## 133  Exciting news! -0.388513986
## 134      Fun weekend! -0.049394990
## 135      Team meeting -0.143542713
## 136      Team meeting -0.385177557
## 137 Need assistance -0.438415068
## 138      Team meeting -0.549432104
## 139       Great work! -0.769964864
## 140      Fun weekend! -0.103599444
## 141 Hello everyone! -0.321912185
## 142       Great work! -0.150377708
## 143 Need assistance -0.639425840
## 144      Team meeting -0.801527123
## 145      Team meeting -0.134665603
## 146  Exciting news! -0.525143623
## 147      Fun weekend! -0.417790642
## 148       Great work! -0.410223121
## 149  Exciting news! -0.302134784
## 150      Team meeting -0.249497572
## 151       Great work! -0.488912587
## 152      Team meeting -0.271451744
## 153  Exciting news! -0.007040349
## 154 Hello everyone! -0.893453151
## 155      Team meeting -0.670432338
## 156 Need assistance -0.345415825
## 157      Fun weekend! -0.848228461
## 158      Fun weekend! -0.143456620
## 159  Exciting news! -0.195798854
## 160      Fun weekend! -0.358376735
## 161  Exciting news! -0.930242309
## 162 Hello everyone! -0.598425182
## 163  Exciting news! -0.875286373
## 164       Great work! -0.643276188
## 165  Exciting news! -0.452694423
## 166 Need assistance -0.754348847
```

```
## 167 Need assistance -0.829999507
## 168     Fun weekend! -0.877705400
## 169    Team meeting -0.111247493
## 170      Great work! -0.317266905
## 171     Fun weekend! -0.415885320
## 172  Exciting news! -0.537696546
## 173 Need assistance -0.130674560
## 174 Need assistance -0.375053814
## 175  Exciting news! -0.978982675
## 176 Need assistance -0.220039924
## 177 Need assistance -0.613432584
## 178      Great work! -0.951084716
## 179 Need assistance -0.920249034
## 180  Exciting news! -0.209318373
## 181 Need assistance -0.806338225
## 182  Exciting news! -0.597888714
## 183  Exciting news! -0.122806889
## 184    Team meeting -0.976236885
## 185  Exciting news! -0.858994203
## 186     Fun weekend! -0.926554946
## 187    Team meeting -0.718652172
## 188     Fun weekend! -0.928850479
## 189  Exciting news! -0.298691060
## 190      Great work! -0.900102365
## 191     Fun weekend! -0.371842024
## 192    Team meeting -0.012694929
## 193     Fun weekend! -0.357268680
## 194     Fun weekend! -0.566594298
## 195    Team meeting -0.284638313
## 196    Team meeting -0.150205611
## 197 Need assistance -0.904224418
## 198  Exciting news! -0.901918261
## 199     Fun weekend! -0.259928443
## 200      Great work! -0.545365768
## 201 Need assistance -0.104900640
## 202     Fun weekend! -0.818538250
## 203      Great work! -0.349391197
## 204  Exciting news! -0.212464974
## 205 Need assistance -0.543064435
## 206     Fun weekend! -0.286604216
## 207 Hello everyone! -0.038818533
## 208      Great work! -0.574539005
## 209  Exciting news! -0.762122771
## 210    Team meeting -0.956999032
## 211  Exciting news! -0.050068120
## 212 Hello everyone! -0.355751095
## 213 Need assistance -0.998774239
## 214    Team meeting -0.970338997
## 215  Exciting news! -0.033773244
## 216    Team meeting -0.476500273
## 217  Exciting news! -0.719712700
## 218 Need assistance -0.064178423
## 219 Hello everyone! -0.567197050
## 220 Hello everyone! -0.510870771
## 221 Hello everyone! -0.939573104
## 222 Need assistance -0.014521594
```

```
## 223      Team meeting -0.287118956
## 224 Need assistance -0.883181106
## 225 Hello everyone! -0.863882122
## 226      Great work! -0.641657173
## 227  Exciting news! -0.847681918
## 228      Team meeting -0.094959955
## 229      Team meeting -0.024243061
## 230 Need assistance -0.750471560
## 231 Hello everyone! -0.526591262
## 232     Fun weekend! -0.345988781
## 233      Great work! -0.784876938
## 234      Great work! -0.947211589
## 235      Team meeting -0.235653992
## 236 Hello everyone! -0.426096413
## 237 Hello everyone! -0.774547359
## 238      Team meeting -0.674190784
## 239      Team meeting -0.993759494
## 240      Team meeting -0.536957865
## 241 Need assistance -0.718395420
## 242      Great work! -0.400677142
## 243      Team meeting -0.232014328
## 244 Hello everyone! -0.918783627
## 245     Fun weekend! -0.375794835
## 246     Fun weekend! -0.021554315
## 247      Team meeting -0.423585835
## 248  Exciting news! -0.184577833
## 249     Fun weekend! -0.624432764
## 250     Fun weekend! -0.173903828
## 251 Hello everyone! -0.029610693
## 252  Exciting news! -0.616928389
## 253      Great work! -0.359934055
## 254  Exciting news! -0.615862965
## 255      Great work! -0.049498704
## 256     Fun weekend! -0.111042333
## 257      Team meeting -0.943049938
## 258      Great work! -0.336303487
## 259      Team meeting -0.642315470
## 260 Need assistance -0.236316590
## 261 Need assistance -0.249764988
## 262 Hello everyone! -0.161284721
## 263      Great work! -0.956337988
## 264     Fun weekend! -0.673607849
## 265 Need assistance -0.775436828
## 266      Team meeting -0.134102609
## 267     Fun weekend! -0.436848105
## 268  Exciting news! -0.823877914
## 269      Team meeting -0.299451457
## 270  Exciting news! -0.542942689
## 271      Team meeting -0.118006961
## 272 Need assistance -0.070094255
## 273 Need assistance -0.919222645
## 274  Exciting news! -0.768564025
## 275      Great work! -0.595158034
## 276     Fun weekend! -0.064443091
## 277 Hello everyone! -0.605858998
## 278      Great work! -0.823533585
```

```
## 279      Fun weekend! -0.485003887
## 280 Need assistance -0.438784983
## 281      Fun weekend! -0.495438306
## 282 Hello everyone! -0.143556185
## 283      Fun weekend! -0.735883705
## 284  Exciting news! -0.024743940
## 285      Fun weekend! -0.797102704
## 286     Team meeting -0.365139902
## 287 Need assistance -0.264464825
## 288 Need assistance -0.461871512
## 289 Need assistance -0.107154121
## 290     Team meeting -0.229243480
## 291 Need assistance -0.035525655
## 292      Great work! -0.405934577
## 293 Hello everyone! -0.606922586
## 294 Hello everyone! -0.172054263
## 295 Hello everyone! -0.987261285
## 296      Fun weekend! -0.672147054
## 297  Exciting news! -0.792284821
## 298      Great work! -0.026141260
## 299      Fun weekend! -0.141636565
## 300      Fun weekend! -0.693275109
## 301 Need assistance -0.115035673
## 302      Great work! -0.068923920
## 303     Team meeting -0.289186294
## 304  Exciting news! -0.633368273
## 305      Great work! -0.725357866
## 306     Team meeting -0.812502595
## 307      Fun weekend! -0.042934414
## 308      Fun weekend! -0.895003283
## 309 Need assistance -0.992002849
## 310      Fun weekend! -0.552409418
## 311     Team meeting -0.780283807
## 312      Fun weekend! -0.835450725
## 313      Great work! -0.236779108
## 314      Great work! -0.495721815
## 315 Hello everyone! -0.446434771
## 316     Team meeting -0.144443278
## 317     Team meeting -0.877922161
## 318 Hello everyone! -0.725457437
## 319     Team meeting -0.232356975
## 320 Need assistance -0.115179492
## 321 Hello everyone! -0.812013249
## 322     Team meeting -0.320194449
## 323  Exciting news! -0.546088908
## 324      Great work! -0.018533767
## 325      Great work! -0.777630202
## 326     Team meeting -0.351081788
## 327 Hello everyone! -0.217646003
## 328     Team meeting -0.203160496
## 329 Need assistance -0.100954488
## 330     Team meeting -0.493501368
## 331  Exciting news! -0.487793705
## 332      Fun weekend! -0.329790550
## 333  Exciting news! -0.149807401
## 334      Great work! -0.022698464
```

```
## 335  Exciting news! -0.283369262
## 336    Team meeting -0.933677876
## 337 Hello everyone! -0.878399170
## 338     Great work! -0.311243319
## 339 Hello everyone! -0.572465386
## 340    Fun weekend! -0.372473280
## 341 Need assistance -0.713639749
## 342     Great work! -0.700269639
## 343  Exciting news! -0.539138246
## 344  Exciting news! -0.054910814
## 345  Exciting news! -0.693217811
## 346 Hello everyone! -0.164491392
## 347 Hello everyone! -0.694118693
## 348     Great work! -0.222633559
## 349     Great work! -0.111933967
## 350     Great work! -0.417041691
## 351     Great work! -0.841218561
## 352 Need assistance -0.173975688
## 353    Fun weekend! -0.102208237
## 354     Great work! -0.505026447
## 355 Need assistance -0.544543609
## 356 Hello everyone! -0.289897254
## 357    Team meeting -0.801572199
## 358  Exciting news! -0.736287751
## 359    Team meeting -0.303564250
## 360 Need assistance -0.281915764
## 361 Need assistance -0.273263505
## 362     Great work! -0.693289580
## 363 Hello everyone! -0.395961934
## 364 Need assistance -0.970480603
## 365    Team meeting -0.113114946
## 366 Hello everyone! -0.666331347
## 367  Exciting news! -0.995861550
## 368     Great work! -0.549234209
## 369 Hello everyone! -0.325806037
## 370  Exciting news! -0.873230109
## 371 Hello everyone! -0.851052538
## 372 Hello everyone! -0.633588556
## 373     Great work! -0.481857921
## 374 Hello everyone! -0.378329881
## 375     Great work! -0.674055766
## 376 Hello everyone! -0.508614742
## 377 Need assistance -0.917325706
## 378 Need assistance -0.600080754
## 379     Great work! -0.539260621
## 380    Team meeting -0.074092148
## 381 Need assistance -0.846264025
## 382 Hello everyone! -0.562214842
## 383 Hello everyone! -0.945477226
## 384 Need assistance -0.329706852
## 385    Team meeting -0.927027794
## 386    Team meeting -0.996662613
## 387     Great work! -0.853163924
## 388    Team meeting -0.887928675
## 389    Team meeting -0.608078998
## 390     Great work! -0.114574431
```

```
## 391 Need assistance -0.065970336
## 392  Exciting news! -0.616592484
## 393     Fun weekend! -0.953222217
## 394 Hello everyone! -0.120084892
## 395 Hello everyone! -0.568787924
## 396    Team meeting -0.641849058
## 397    Fun weekend! -0.530567507
## 398    Fun weekend! -0.998980226
## 399    Team meeting -0.492082868
## 400     Great work! -0.160749977
## 401    Team meeting -0.709024122
## 402 Hello everyone! -0.440484574
## 403    Fun weekend! -0.898072343
## 404 Need assistance -0.161143415
## 405 Hello everyone! -0.040838550
## 406  Exciting news! -0.798021044
## 407     Great work! -0.652119522
## 408  Exciting news! -0.286527871
## 409     Great work! -0.597466531
## 410  Exciting news! -0.113282133
## 411    Fun weekend! -0.520876877
## 412    Team meeting -0.528815492
## 413 Hello everyone! -0.279889458
## 414    Fun weekend! -0.455487390
## 415 Hello everyone! -0.822144668
## 416 Hello everyone! -0.160779689
## 417 Need assistance -0.102778860
## 418    Fun weekend! -0.511013610
## 419    Team meeting -0.879799920
## 420     Great work! -0.387922954
## 421  Exciting news! -0.750027833
## 422 Need assistance -0.614020258
## 423  Exciting news! -0.770805090
## 424 Hello everyone! -0.638266036
## 425 Hello everyone! -0.416070993
## 426     Great work! -0.232635738
## 427 Hello everyone! -0.798660460
## 428     Great work! -0.389785778
## 429 Hello everyone! -0.691606675
## 430 Hello everyone! -0.359136123
## 431     Great work! -0.351176404
## 432     Great work! -0.311684015
## 433    Fun weekend! -0.789119672
## 434    Team meeting -0.472906698
## 435    Team meeting -0.789976987
## 436    Team meeting -0.307752223
## 437     Great work! -0.948017055
## 438 Hello everyone! -0.318016798
## 439    Team meeting -0.893834382
## 440 Need assistance -0.600851388
## 441     Great work! -0.548428072
## 442 Need assistance -0.003094339
## 443    Fun weekend! -0.528116655
## 444     Great work! -0.124954135
## 445 Need assistance -0.198273231
## 446    Fun weekend! -0.240693055
```

```
## 447      Team meeting -0.075425136
## 448      Fun weekend! -0.088887415
## 449      Team meeting -0.939407335
## 450       Great work! -0.666475324
## 451 Hello everyone! -0.936083395
## 452       Great work! -0.389590032
## 453 Hello everyone! -0.555095884
## 454      Team meeting -0.047711935
## 455  Exciting news! -0.618614707
## 456      Fun weekend! -0.412842807
## 457       Great work! -0.251496902
## 458 Need assistance -0.459899545
## 459 Need assistance -0.101536875
## 460  Exciting news! -0.329569053
## 461       Great work! -0.806566573
## 462  Exciting news! -0.249575844
## 463 Hello everyone! -0.064463819
## 464 Hello everyone! -0.357717138
## 465 Need assistance -0.696885624
## 466  Exciting news! -0.662697271
## 467       Great work! -0.704862314
## 468 Need assistance -0.129298556
## 469 Need assistance -0.988749139
## 470 Need assistance -0.044029484
## 471  Exciting news! -0.237763272
## 472      Team meeting -0.666378770
## 473  Exciting news! -0.010767524
## 474      Team meeting -0.712716471
## 475       Great work! -0.839583620
## 476       Great work! -0.887057793
## 477 Need assistance -0.837423526
## 478       Great work! -0.462906254
## 479       Great work! -0.129584252
## 480      Team meeting -0.377541550
## 481      Fun weekend! -0.363247766
## 482 Need assistance -0.716619523
## 483       Great work! -0.071027102
## 484 Hello everyone! -0.360894154
## 485 Need assistance -0.316063035
## 486  Exciting news! -0.531753783
## 487      Team meeting -0.785379849
```

Question-10: Enhancing Engagement

Apply the mutate command to add a new column to the "comm_data" dataframe, representing a sentiment label: "Positive," "Neutral," or "Negative," based on the sentiment score.

Solution:

```
# Enter code here


comm_data %>%
  mutate(sentiment_label = ifelse(sentiment > 0, "Positive",
                                  ifelse(sentiment < 0, "Negative", "Neutral")))
```

```
##           date channel       sender       message   sentiment
## 1   2023-08-11 Twitter  dave@example   Fun weekend!  0.824099663
## 2   2023-08-11   Email   @bob_tweets Hello everyone!  0.662486946
## 3   2023-08-11   Slack  @frank_chat Hello everyone! -0.143450806
## 4   2023-08-18   Email  @frank_chat   Fun weekend!  0.380196611
## 5   2023-08-14   Slack  @frank_chat Need assistance  0.187954018
## 6   2023-08-04   Email  @erin_tweets Need assistance -0.108376242
## 7   2023-08-10 Twitter  @frank_chat Hello everyone! -0.740855453
## 8   2023-08-04   Slack alice@example Hello everyone! -0.187917918
## 9   2023-08-20   Email  dave@example   Team meeting  0.617879979
## 10  2023-08-09   Slack  @erin_tweets Hello everyone! -0.932525445
## 11  2023-08-06   Email  @frank_chat   Team meeting  0.819675826
## 12  2023-08-16 Twitter  @erin_tweets    Great work!  0.150156671
## 13  2023-08-01 Twitter alice@example Need assistance  0.676776995
## 14  2023-08-16   Slack alice@example  Exciting news!  0.320830711
## 15  2023-08-16 Twitter alice@example  Exciting news!  0.927110374
## 16  2023-08-07   Email   @bob_tweets    Great work!  0.642848774
## 17  2023-08-01 Twitter   @bob_tweets Need assistance  0.148395223
## 18  2023-08-20   Email   carol_slack   Team meeting  0.909817838
## 19  2023-08-08   Slack  @erin_tweets Need assistance -0.879413284
## 20  2023-08-06   Slack  dave@example Hello everyone!  0.968081689
## 21  2023-08-11 Twitter   @bob_tweets    Great work! -0.751736611
## 22  2023-08-12 Twitter  dave@example   Team meeting -0.786887704
## 23  2023-08-12   Slack  @frank_chat   Fun weekend!  0.519153008
## 24  2023-08-11   Email  @frank_chat   Fun weekend!  0.874191639
## 25  2023-08-04   Email   @bob_tweets   Fun weekend! -0.539049788
## 26  2023-08-13   Email alice@example Hello everyone!  0.433930994
## 27  2023-08-16 Twitter   @bob_tweets  Exciting news! -0.141741692
## 28  2023-08-09 Twitter alice@example Need assistance  0.083300223
## 29  2023-08-14 Twitter  dave@example    Great work!  0.866824818
## 30  2023-08-17 Twitter alice@example   Team meeting -0.189370414
## 31  2023-08-17 Twitter   @bob_tweets Need assistance -0.493062959
## 32  2023-08-15   Email   @bob_tweets    Great work!  0.468266435
## 33  2023-08-01 Twitter  @frank_chat Need assistance  0.599045397
## 34  2023-08-16 Twitter alice@example    Great work! -0.179680133
## 35  2023-08-10 Twitter  @erin_tweets    Great work!  0.199771451
## 36  2023-08-07   Email  dave@example   Team meeting  0.327507946
## 37  2023-08-02   Email  dave@example    Great work!  0.973676749
## 38  2023-08-13   Email   @bob_tweets   Team meeting -0.092784007
## 39  2023-08-11   Slack   @bob_tweets   Team meeting -0.955364774
## 40  2023-08-05   Email   carol_slack  Exciting news!  0.468174768
## 41  2023-08-19 Twitter  @frank_chat Need assistance  0.481529109
## 42  2023-08-10   Slack  @erin_tweets Need assistance -0.766245456
## 43  2023-08-11   Email   carol_slack Need assistance -0.547700667
## 44  2023-08-06 Twitter  @erin_tweets  Exciting news! -0.415566467
## 45  2023-08-06   Email   carol_slack    Great work! -0.579760317
## 46  2023-08-18   Email alice@example   Fun weekend!  0.233402089
## 47  2023-08-07   Email  @frank_chat   Fun weekend!  0.387379609
## 48  2023-08-20   Email alice@example    Great work!  0.062977130
## 49  2023-08-16   Slack  @erin_tweets  Exciting news! -0.290788232
## 50  2023-08-02 Twitter alice@example   Team meeting  0.210089974
## 51  2023-08-12   Email  dave@example Need assistance  0.091942075
## 52  2023-08-10 Twitter  @erin_tweets Need assistance -0.340010146
## 53  2023-08-13   Slack   carol_slack Hello everyone!  0.675182751
## 54  2023-08-13   Slack   @bob_tweets    Great work! -0.443448592
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## 55    2023-08-16    Slack    @bob_tweets    Team meeting -0.774452816
## 56    2023-08-13    Slack alice@example      Great work!  0.480868685
## 57    2023-08-07    Slack   @frank_chat Need assistance  0.914976185
## 58    2023-08-13 Twitter  dave@example      Fun weekend!  0.986894567
## 59    2023-08-06 Twitter alice@example Hello everyone! -0.882707532
## 60    2023-08-15    Slack  @erin_tweets Hello everyone! -0.689319659
## 61    2023-08-17    Email   @frank_chat    Team meeting  0.932789830
## 62    2023-08-12    Slack   @frank_chat Hello everyone! -0.219064676
## 63    2023-08-18 Twitter   @frank_chat    Team meeting -0.004460444
## 64    2023-08-20 Twitter alice@example Hello everyone!  0.482187657
## 65    2023-08-14 Twitter   @frank_chat    Team meeting -0.935610580
## 66    2023-08-03    Email  @erin_tweets    Fun weekend!  0.924321534
## 67    2023-08-06    Slack   @bob_tweets Hello everyone! -0.452905738
## 68    2023-08-14 Twitter alice@example  Exciting news!  0.415267176
## 69    2023-08-16    Email   @frank_chat Hello everyone!  0.997601895
## 70    2023-08-13 Twitter alice@example Need assistance  0.119616441
## 71    2023-08-13    Email  dave@example Need assistance -0.834047724
## 72    2023-08-05    Slack  @erin_tweets Need assistance -0.195926677
## 73    2023-08-12    Slack  dave@example    Fun weekend! -0.285561244
## 74    2023-08-16    Slack   carol_slack Hello everyone!  0.529127310
## 75    2023-08-10    Email   @bob_tweets    Team meeting -0.060755176
## 76    2023-08-12 Twitter   carol_slack     Great work!  0.407506729
## 77    2023-08-18    Email   @frank_chat    Fun weekend! -0.569811309
## 78    2023-08-17    Email   @bob_tweets    Fun weekend!  0.825692308
## 79    2023-08-09    Email  @erin_tweets  Exciting news! -0.018193701
## 80    2023-08-10    Email   @bob_tweets     Great work!  0.924440826
## 81    2023-08-04 Twitter   @bob_tweets    Fun weekend!  0.185009266
## 82    2023-08-19    Email  dave@example  Exciting news!  0.821827833
## 83    2023-08-04    Slack alice@example Need assistance  0.534302738
## 84    2023-08-17    Slack alice@example  Exciting news! -0.301641050
## 85    2023-08-15 Twitter  @erin_tweets     Great work! -0.244326655
## 86    2023-08-15 Twitter   carol_slack Hello everyone! -0.761104998
## 87    2023-08-03 Twitter   @bob_tweets  Exciting news! -0.408464086
## 88    2023-08-16    Email   @frank_chat    Fun weekend! -0.584208118
## 89    2023-08-04    Slack   @bob_tweets    Fun weekend!  0.866016825
## 90    2023-08-15 Twitter alice@example    Team meeting -0.178657859
## 91    2023-08-07    Email alice@example     Great work! -0.329095908
## 92    2023-08-15 Twitter alice@example    Fun weekend! -0.707901944
## 93    2023-08-20    Email alice@example Hello everyone! -0.166448134
## 94    2023-08-19    Email  dave@example  Exciting news! -0.533024813
## 95    2023-08-07    Slack   @bob_tweets Need assistance -0.356371285
## 96    2023-08-17    Email   @bob_tweets    Team meeting -0.467768930
## 97    2023-08-09 Twitter   carol_slack    Fun weekend! -0.056202481
## 98    2023-08-19    Email  @erin_tweets    Team meeting -0.757670477
## 99    2023-08-16 Twitter  @erin_tweets  Exciting news! -0.265161676
## 100   2023-08-01 Twitter   @frank_chat  Exciting news! -0.822780307
## 101   2023-08-10    Email   @frank_chat Hello everyone!  0.535708998
## 102   2023-08-17 Twitter   @bob_tweets  Exciting news!  0.953910344
## 103   2023-08-14    Email  @erin_tweets     Great work!  0.891589128
## 104   2023-08-08    Email   @bob_tweets Need assistance  0.115187556
## 105   2023-08-03 Twitter  @erin_tweets Need assistance -0.680233249
## 106   2023-08-14 Twitter  @erin_tweets Hello everyone! -0.647561021
## 107   2023-08-20    Email   @bob_tweets  Exciting news!  0.931368547
## 108   2023-08-13 Twitter   @bob_tweets     Great work! -0.705626460
## 109   2023-08-06    Slack   @frank_chat Hello everyone! -0.050532605
## 110   2023-08-20    Slack alice@example     Great work! -0.459148118
```

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## 111  2023-08-20   Slack  dave@example  Exciting news!   0.617734990
## 112  2023-08-11   Email alice@example   Fun weekend!  -0.034278538
## 113  2023-08-09 Twitter alice@example    Great work!  -0.013945965
## 114  2023-08-10   Slack  dave@example   Team meeting  -0.934943126
## 115  2023-08-16   Slack alice@example Need assistance  0.669039086
## 116  2023-08-02   Slack  @erin_tweets   Fun weekend!  -0.474169046
## 117  2023-08-14   Email   @bob_tweets   Team meeting  -0.815906889
## 118  2023-08-07   Slack   @frank_chat  Exciting news!  0.993148146
## 119  2023-08-04   Email alice@example  Exciting news!  -0.200843529
## 120  2023-08-13 Twitter alice@example   Fun weekend!  -0.958858334
## 121  2023-08-08   Email   carol_slack   Team meeting   0.213498762
## 122  2023-08-18   Slack   @bob_tweets   Fun weekend!  -0.558302570
## 123  2023-08-12 Twitter   carol_slack Need assistance -0.435741366
## 124  2023-08-18   Email  dave@example Need assistance -0.770186925
## 125  2023-08-11   Slack   @frank_chat  Exciting news!  -0.871460078
## 126  2023-08-18 Twitter   @bob_tweets Need assistance  0.083397951
## 127  2023-08-11   Slack  dave@example Hello everyone! -0.843954970
## 128  2023-08-15   Email  @erin_tweets   Fun weekend!  -0.576360519
## 129  2023-08-09 Twitter alice@example    Great work!   0.432502551
## 130  2023-08-11 Twitter  @erin_tweets Need assistance -0.462980804
## 131  2023-08-15   Email   carol_slack  Exciting news!  -0.745493084
## 132  2023-08-15 Twitter  dave@example   Fun weekend!   0.469535301
## 133  2023-08-02 Twitter  @erin_tweets  Exciting news!  0.750492542
## 134  2023-08-16   Email alice@example   Team meeting   0.858062949
## 135  2023-08-07   Email alice@example  Exciting news!  0.773558143
## 136  2023-08-19   Email alice@example  Exciting news!  0.401543677
## 137  2023-08-17 Twitter   @frank_chat Hello everyone!  0.951721462
## 138  2023-08-20 Twitter alice@example  Exciting news!  0.310656996
## 139  2023-08-20 Twitter   carol_slack    Great work!   0.544291852
## 140  2023-08-10   Slack   @bob_tweets Hello everyone! -0.075317414
## 141  2023-08-04   Email  @erin_tweets Need assistance  0.689327837
## 142  2023-08-15 Twitter   @bob_tweets   Team meeting   0.853966497
## 143  2023-08-10   Email alice@example Need assistance -0.815106571
## 144  2023-08-03 Twitter alice@example Hello everyone!  0.530733542
## 145  2023-08-19   Slack  dave@example    Great work!  -0.526421044
## 146  2023-08-12 Twitter  dave@example Hello everyone!  0.278570379
## 147  2023-08-01   Slack   @frank_chat   Team meeting  -0.202094683
## 148  2023-08-11   Email  dave@example    Great work!   0.509797142
## 149  2023-08-17 Twitter   carol_slack   Fun weekend!   0.172285239
## 150  2023-08-01   Slack   @bob_tweets  Exciting news!  0.146396939
## 151  2023-08-07 Twitter   @bob_tweets   Fun weekend!  -0.390309056
## 152  2023-08-20   Slack   @bob_tweets    Great work!   0.203791809
## 153  2023-08-12   Slack   carol_slack    Great work!  -0.733910211
## 154  2023-08-17   Email  @erin_tweets    Great work!   0.709753431
## 155  2023-08-10 Twitter  @erin_tweets   Fun weekend!  -0.496555788
## 156  2023-08-14 Twitter alice@example Hello everyone! -0.892831107
## 157  2023-08-11   Slack   @frank_chat Hello everyone! -0.108963726
## 158  2023-08-11   Slack alice@example   Fun weekend!  -0.799520459
## 159  2023-08-03 Twitter   carol_slack  Exciting news!  0.044649603
## 160  2023-08-18   Email   @bob_tweets   Fun weekend!  -0.558283084
## 161  2023-08-12 Twitter   @bob_tweets  Exciting news!  -0.608554570
## 162  2023-08-17   Email  dave@example   Fun weekend!   0.420022254
## 163  2023-08-16   Slack alice@example Need assistance  0.445466304
## 164  2023-08-01   Slack  @erin_tweets    Great work!   0.244422906
## 165  2023-08-01 Twitter   @frank_chat   Team meeting  -0.526283488
## 166  2023-08-04 Twitter  dave@example Need assistance -0.635092593
```

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## 167   2023-08-07    Email  @erin_tweets    Great work! -0.446627778
## 168   2023-08-06 Twitter    @bob_tweets    Fun weekend! -0.149422837
## 169   2023-08-15    Slack alice@example    Fun weekend!  0.271711212
## 170   2023-08-13 Twitter alice@example Hello everyone!  0.752351641
## 171   2023-08-05 Twitter alice@example    Great work! -0.630844017
## 172   2023-08-10    Slack   @frank_chat Hello everyone!  0.142070077
## 173   2023-08-16 Twitter    @bob_tweets    Fun weekend! -0.533522750
## 174   2023-08-06    Email    @bob_tweets    Fun weekend!  0.201027735
## 175   2023-08-13    Slack   @frank_chat  Exciting news!  0.443950114
## 176   2023-08-01 Twitter   @frank_chat  Exciting news! -0.398672424
## 177   2023-08-07    Slack alice@example  Exciting news! -0.686074989
## 178   2023-08-13    Slack  @erin_tweets Need assistance -0.514785561
## 179   2023-08-18 Twitter   @frank_chat  Exciting news! -0.445320373
## 180   2023-08-14 Twitter alice@example    Great work!  0.346799491
## 181   2023-08-06 Twitter  dave@example  Exciting news! -0.433124611
## 182   2023-08-13 Twitter   @frank_chat Hello everyone! -0.369747002
## 183   2023-08-07    Email alice@example Hello everyone!  0.917979236
## 184   2023-08-14 Twitter   @frank_chat    Great work! -0.912142744
## 185   2023-08-09    Email  @erin_tweets  Exciting news!  0.020394353
## 186   2023-08-15    Slack   carol_slack    Fun weekend! -0.760701751
## 187   2023-08-09    Slack    @bob_tweets   Team meeting  0.500293179
## 188   2023-08-03 Twitter    @bob_tweets Hello everyone! -0.243440011
## 189   2023-08-16    Slack    @bob_tweets   Team meeting  0.120248223
## 190   2023-08-06    Email    @bob_tweets    Fun weekend! -0.159573650
## 191   2023-08-07    Email   carol_slack  Exciting news!  0.785684678
## 192   2023-08-12    Email  @erin_tweets  Exciting news! -0.260005387
## 193   2023-08-13    Slack   carol_slack  Exciting news!  0.474910577
## 194   2023-08-01    Slack   @frank_chat Need assistance  0.601800072
## 195   2023-08-07    Slack alice@example Need assistance  0.877496709
## 196   2023-08-10    Slack alice@example Need assistance -0.356432681
## 197   2023-08-18 Twitter  dave@example Need assistance -0.577738499
## 198   2023-08-07    Email    @bob_tweets   Team meeting -0.767587414
## 199   2023-08-12    Slack alice@example    Fun weekend!  0.226010282
## 200   2023-08-14    Slack  @erin_tweets Hello everyone!  0.987832270
## 201   2023-08-06    Slack   @frank_chat Need assistance  0.746888391
## 202   2023-08-14 Twitter alice@example   Team meeting  0.024089097
## 203   2023-08-07 Twitter  dave@example   Team meeting -0.014527882
## 204   2023-08-02    Slack  @erin_tweets  Exciting news!  0.900116188
## 205   2023-08-09 Twitter alice@example    Fun weekend! -0.391704335
## 206   2023-08-07    Slack  @erin_tweets Hello everyone!  0.079340591
## 207   2023-08-16    Email   carol_slack    Great work!  0.306993762
## 208   2023-08-10    Email   @frank_chat Need assistance -0.857863282
## 209   2023-08-09    Slack  @erin_tweets    Fun weekend!  0.542777083
## 210   2023-08-03    Email  dave@example Hello everyone!  0.575844854
## 211   2023-08-03 Twitter  dave@example   Team meeting -0.024207670
## 212   2023-08-05 Twitter    @bob_tweets Need assistance  0.089429019
## 213   2023-08-19    Slack    @bob_tweets Hello everyone!  0.679174718
## 214   2023-08-03    Email  @erin_tweets   Team meeting  0.100578078
## 215   2023-08-04    Slack   @frank_chat Need assistance  0.691338675
## 216   2023-08-07    Slack    @bob_tweets Need assistance -0.611560303
## 217   2023-08-11    Slack    @bob_tweets Need assistance -0.542398809
## 218   2023-08-05    Slack    @bob_tweets Hello everyone! -0.940684421
## 219   2023-08-20    Slack alice@example  Exciting news!  0.685212519
## 220   2023-08-14    Email  @erin_tweets Need assistance  0.867801995
## 221   2023-08-20 Twitter  @erin_tweets    Great work! -0.404516522
## 222   2023-08-20    Slack  dave@example  Exciting news! -0.476039052
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## 223  2023-08-16 Twitter   dave@example      Great work!  0.827052074
## 224  2023-08-16   Email    carol_slack      Great work! -0.045373839
## 225  2023-08-11   Slack    carol_slack  Exciting news!  0.062969209
## 226  2023-08-12   Email     @bob_tweets Need assistance -0.042491458
## 227  2023-08-18   Email   alice@example Hello everyone! -0.024430894
## 228  2023-08-03 Twitter    @bob_tweets Need assistance  0.115823371
## 229  2023-08-20   Email     @bob_tweets Need assistance -0.299717092
## 230  2023-08-19   Slack     @bob_tweets Hello everyone! -0.558468956
## 231  2023-08-19 Twitter    @bob_tweets      Great work!  0.521462946
## 232  2023-08-05   Slack     @bob_tweets    Team meeting -0.386754569
## 233  2023-08-08 Twitter    @frank_chat Hello everyone! -0.081353148
## 234  2023-08-16 Twitter   dave@example Need assistance -0.194268964
## 235  2023-08-07   Slack    carol_slack Hello everyone!  0.973429719
## 236  2023-08-03 Twitter    carol_slack      Great work!  0.646422371
## 237  2023-08-11   Email   dave@example    Team meeting  0.146319367
## 238  2023-08-01   Slack    carol_slack Hello everyone!  0.802523659
## 239  2023-08-08   Email    carol_slack     Fun weekend!  0.670605208
## 240  2023-08-16   Email     @frank_chat  Exciting news!  0.305391626
## 241  2023-08-06   Slack     @bob_tweets     Fun weekend! -0.927836751
## 242  2023-08-14   Slack   @erin_tweets      Great work! -0.518683678
## 243  2023-08-05   Email   @erin_tweets  Exciting news!  0.549038415
## 244  2023-08-13   Email    carol_slack  Exciting news!  0.991050147
## 245  2023-08-18   Email   @erin_tweets Need assistance -0.240649289
## 246  2023-08-20 Twitter   @erin_tweets      Great work! -0.743658878
## 247  2023-08-11 Twitter    @frank_chat    Team meeting  0.629940747
## 248  2023-08-18   Email    carol_slack    Team meeting  0.343653605
## 249  2023-08-01   Slack   dave@example    Team meeting -0.176315426
## 250  2023-08-05   Slack    carol_slack    Team meeting -0.320228465
## 251  2023-08-08   Email   dave@example Need assistance  0.084778340
## 252  2023-08-19   Email   dave@example  Exciting news!  0.324592507
## 253  2023-08-15   Slack     @frank_chat  Exciting news! -0.582243779
## 254  2023-08-18   Email     @bob_tweets  Exciting news!  0.497974098
## 255  2023-08-14   Slack     @frank_chat Need assistance -0.384110797
## 256  2023-08-10   Slack  alice@example      Great work!  0.804542714
## 257  2023-08-10   Slack  @erin_tweets    Team meeting  0.862134462
## 258  2023-08-11 Twitter   dave@example  Exciting news!  0.018387399
## 259  2023-08-15   Email    carol_slack Need assistance  0.414960733
## 260  2023-08-20 Twitter    @frank_chat    Team meeting  0.659773430
## 261  2023-08-12 Twitter  alice@example Hello everyone!  0.532433989
## 262  2023-08-20   Slack  alice@example  Exciting news! -0.415822029
## 263  2023-08-18 Twitter    @frank_chat  Exciting news!  0.784590872
## 264  2023-08-14 Twitter    @bob_tweets      Great work! -0.970631612
## 265  2023-08-02 Twitter   dave@example  Exciting news!  0.817105632
## 266  2023-08-19   Email   @erin_tweets    Team meeting -0.823923888
## 267  2023-08-02 Twitter   @erin_tweets  Exciting news!  0.581556937
## 268  2023-08-05 Twitter    carol_slack     Fun weekend!  0.706561523
## 269  2023-08-12   Slack     @frank_chat Need assistance -0.611636332
## 270  2023-08-08   Slack    carol_slack  Exciting news! -0.388513986
## 271  2023-08-19   Slack   @erin_tweets      Great work!  0.037533612
## 272  2023-08-01   Email    carol_slack     Fun weekend!  0.757286296
## 273  2023-08-04   Slack    carol_slack     Fun weekend! -0.049394990
## 274  2023-08-03 Twitter    carol_slack      Great work!  0.049291416
## 275  2023-08-16   Slack     @frank_chat    Team meeting -0.143542713
## 276  2023-08-06 Twitter    carol_slack    Team meeting -0.385177557
## 277  2023-08-06   Email   dave@example Need assistance -0.438415068
## 278  2023-08-06 Twitter    @bob_tweets    Team meeting -0.549432104
```

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## 279  2023-08-14   Email    carol_slack     Fun weekend!   0.446355308
## 280  2023-08-04   Email  alice@example      Great work!  -0.769964864
## 281  2023-08-05   Slack   @erin_tweets  Need assistance   0.519475343
## 282  2023-08-06   Slack  alice@example     Fun weekend!  -0.103599444
## 283  2023-08-04   Email    @frank_chat  Need assistance   0.063336529
## 284  2023-08-15   Slack    @bob_tweets    Exciting news!   0.423514269
## 285  2023-08-16   Slack    carol_slack  Hello everyone!  -0.321912185
## 286  2023-08-03   Slack  alice@example      Great work!  -0.150377708
## 287  2023-08-18   Slack   @erin_tweets     Team meeting   0.353438236
## 288  2023-08-03 Twitter   dave@example  Hello everyone!   0.902683333
## 289  2023-08-20 Twitter  alice@example     Fun weekend!   0.280627117
## 290  2023-08-15 Twitter    @frank_chat  Need assistance  -0.639425840
## 291  2023-08-05 Twitter  alice@example     Team meeting   0.824948560
## 292  2023-08-09   Slack   @erin_tweets     Team meeting   0.268132484
## 293  2023-08-04   Email    @bob_tweets  Need assistance   0.017915569
## 294  2023-08-18 Twitter    carol_slack   Exciting news!   0.222249684
## 295  2023-08-20   Email    @bob_tweets     Team meeting  -0.801527123
## 296  2023-08-12 Twitter   dave@example      Great work!   0.195303030
## 297  2023-08-14 Twitter   dave@example     Fun weekend!   0.474564350
## 298  2023-08-20   Slack   @erin_tweets     Team meeting  -0.134665603
## 299  2023-08-20   Email    carol_slack     Team meeting   0.078007510
## 300  2023-08-02 Twitter   @erin_tweets   Exciting news!  -0.525143623
## 301  2023-08-09   Slack  alice@example  Need assistance   0.665302936
## 302  2023-08-17 Twitter   @erin_tweets     Fun weekend!  -0.417790642
## 303  2023-08-08   Slack   @erin_tweets      Great work!  -0.410223121
## 304  2023-08-05   Slack   @erin_tweets   Exciting news!  -0.302134784
## 305  2023-08-19   Email   dave@example     Team meeting   0.087382621
## 306  2023-08-19   Slack  alice@example     Team meeting  -0.249497572
## 307  2023-08-03   Slack   dave@example      Great work!  -0.488912587
## 308  2023-08-15   Slack    @bob_tweets     Team meeting  -0.271451744
## 309  2023-08-10 Twitter   @erin_tweets     Team meeting   0.384202328
## 310  2023-08-06   Email    carol_slack      Great work!   0.766328182
## 311  2023-08-08   Email  alice@example   Exciting news!  -0.007040349
## 312  2023-08-07   Slack    @bob_tweets   Exciting news!   0.370947586
## 313  2023-08-03 Twitter  alice@example  Hello everyone!  -0.893453151
## 314  2023-08-01   Email    @frank_chat     Team meeting  -0.670432338
## 315  2023-08-18   Email  alice@example   Exciting news!   0.422912350
## 316  2023-08-03   Email    @frank_chat  Need assistance  -0.345415825
## 317  2023-08-04   Slack   dave@example     Fun weekend!  -0.848228461
## 318  2023-08-15   Email    @frank_chat  Need assistance   0.385732211
## 319  2023-08-06   Slack  alice@example     Fun weekend!  -0.143456620
## 320  2023-08-11   Slack   dave@example  Hello everyone!   0.879992486
## 321  2023-08-05 Twitter    carol_slack     Team meeting   0.364639959
## 322  2023-08-20   Slack   dave@example      Great work!   0.814900840
## 323  2023-08-20   Email   @erin_tweets   Exciting news!  -0.195798854
## 324  2023-08-09   Slack   dave@example     Fun weekend!  -0.358376735
## 325  2023-08-13   Email    carol_slack   Exciting news!  -0.930242309
## 326  2023-08-20   Slack   @erin_tweets     Fun weekend!   0.604609676
## 327  2023-08-15   Email   @erin_tweets  Hello everyone!  -0.598425182
## 328  2023-08-16   Slack   dave@example   Exciting news!   0.461496073
## 329  2023-08-02 Twitter  alice@example     Team meeting   0.964958043
## 330  2023-08-16 Twitter    carol_slack   Exciting news!  -0.875286373
## 331  2023-08-19   Email    @frank_chat  Hello everyone!   0.179850068
## 332  2023-08-14   Slack   @erin_tweets   Exciting news!   0.336964048
## 333  2023-08-07   Slack   @erin_tweets      Great work!  -0.643276188
## 334  2023-08-01 Twitter    @bob_tweets   Exciting news!  -0.452694423
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## 335  2023-08-11 Twitter    @bob_tweets  Exciting news!  0.260118117
## 336  2023-08-18    Slack    @bob_tweets Need assistance -0.754348847
## 337  2023-08-14    Email   dave@example Need assistance -0.829999507
## 338  2023-08-14    Email alice@example Need assistance  0.043240849
## 339  2023-08-01    Slack   carol_slack    Fun weekend! -0.877705400
## 340  2023-08-12 Twitter    @bob_tweets    Team meeting  0.265132846
## 341  2023-08-04    Slack alice@example    Team meeting -0.111247493
## 342  2023-08-05    Email   carol_slack    Fun weekend!  0.451752027
## 343  2023-08-04    Email    @frank_chat    Great work! -0.317266905
## 344  2023-08-08 Twitter alice@example Hello everyone!  0.223401716
## 345  2023-08-07 Twitter   dave@example  Exciting news!  0.466239469
## 346  2023-08-14    Slack   dave@example Hello everyone!  0.491653796
## 347  2023-08-04 Twitter    @bob_tweets    Fun weekend!  0.163814227
## 348  2023-08-04    Email   @erin_tweets    Fun weekend! -0.415885320
## 349  2023-08-18    Slack   @erin_tweets  Exciting news! -0.537696546
## 350  2023-08-01    Email   carol_slack Need assistance -0.130674560
## 351  2023-08-10    Slack    @bob_tweets Need assistance  0.279333149
## 352  2023-08-16 Twitter    carol_slack Need assistance -0.375053814
## 353  2023-08-18    Email    carol_slack  Exciting news! -0.978982675
## 354  2023-08-14    Email   @erin_tweets Need assistance -0.220039924
## 355  2023-08-14    Email alice@example Need assistance  0.041204039
## 356  2023-08-20 Twitter    @bob_tweets    Fun weekend!  0.236553716
## 357  2023-08-08    Email alice@example     Great work!  0.222402995
## 358  2023-08-19    Email alice@example     Great work!  0.301563812
## 359  2023-08-17    Email   dave@example Hello everyone!  0.976894801
## 360  2023-08-07    Slack   carol_slack    Team meeting  0.190247875
## 361  2023-08-07 Twitter    carol_slack Need assistance  0.895823483
## 362  2023-08-01    Slack   dave@example    Team meeting  0.093826082
## 363  2023-08-17    Slack alice@example     Great work!  0.652192219
## 364  2023-08-04    Slack   carol_slack Need assistance  0.088740259
## 365  2023-08-08    Slack    @bob_tweets Hello everyone!  0.740663246
## 366  2023-08-17 Twitter   dave@example    Fun weekend!  0.775130778
## 367  2023-08-11 Twitter   dave@example    Fun weekend!  0.124404418
## 368  2023-08-19    Slack    @bob_tweets Hello everyone!  0.487545231
## 369  2023-08-18 Twitter   dave@example Need assistance -0.613432584
## 370  2023-08-17    Email    @frank_chat     Great work! -0.951084716
## 371  2023-08-10    Email   @erin_tweets  Exciting news!  0.679597112
## 372  2023-08-12    Email alice@example    Team meeting  0.774573303
## 373  2023-08-02    Email   dave@example  Exciting news!  0.717076284
## 374  2023-08-18    Email    @frank_chat    Fun weekend!  0.061621126
## 375  2023-08-14    Slack    @frank_chat Need assistance -0.920249034
## 376  2023-08-08 Twitter    @frank_chat    Fun weekend!  0.484796492
## 377  2023-08-18 Twitter   dave@example  Exciting news! -0.209318373
## 378  2023-08-17 Twitter    carol_slack Need assistance -0.806338225
## 379  2023-08-12    Email    @bob_tweets  Exciting news! -0.597888714
## 380  2023-08-04    Email alice@example  Exciting news!  0.308247630
## 381  2023-08-04 Twitter    @bob_tweets  Exciting news! -0.122806889
## 382  2023-08-17 Twitter   @erin_tweets Hello everyone!  0.299843722
## 383  2023-08-10 Twitter   @erin_tweets  Exciting news!  0.275836162
## 384  2023-08-10 Twitter    @frank_chat    Team meeting -0.976236885
## 385  2023-08-16    Email alice@example  Exciting news! -0.858994203
## 386  2023-08-12    Slack   carol_slack    Fun weekend!  0.608656868
## 387  2023-08-11 Twitter    @frank_chat    Fun weekend! -0.926554946
## 388  2023-08-12    Email   dave@example    Fun weekend!  0.043927317
## 389  2023-08-15 Twitter   dave@example     Great work!  0.435108419
## 390  2023-08-18    Slack   dave@example    Team meeting -0.718652172
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## 391 2023-08-08    Slack   @frank_chat Need assistance  0.963640937
## 392 2023-08-07 Twitter   carol_slack    Great work!  0.805481421
## 393 2023-08-16    Email   @erin_tweets   Fun weekend! -0.928850479
## 394 2023-08-14    Slack   dave@example  Exciting news! -0.298691060
## 395 2023-08-02    Slack alice@example    Fun weekend!  0.823352248
## 396 2023-08-03    Email   @erin_tweets    Great work! -0.900102365
## 397 2023-08-19 Twitter    @frank_chat   Fun weekend! -0.371842024
## 398 2023-08-18 Twitter   dave@example   Team meeting -0.012694929
## 399 2023-08-12 Twitter   @erin_tweets   Team meeting  0.650313874
## 400 2023-08-02    Email   dave@example   Fun weekend! -0.357268680
## 401 2023-08-14    Slack   @erin_tweets Need assistance  0.141076977
## 402 2023-08-15 Twitter    @bob_tweets Need assistance  0.373691486
## 403 2023-08-11    Slack   dave@example Need assistance  0.930096855
## 404 2023-08-18    Slack   dave@example   Fun weekend! -0.566594298
## 405 2023-08-19 Twitter   dave@example   Team meeting -0.284638313
## 406 2023-08-19    Email   carol_slack    Fun weekend!  0.892766985
## 407 2023-08-07    Email    @bob_tweets   Team meeting -0.150205611
## 408 2023-08-05    Email    @bob_tweets Hello everyone!  0.616259416
## 409 2023-08-10    Email    @frank_chat    Great work!  0.533465849
## 410 2023-08-02 Twitter   dave@example    Great work!  0.516138048
## 411 2023-08-18 Twitter   @erin_tweets Need assistance  0.116931847
## 412 2023-08-15    Slack   carol_slack Need assistance  0.674294885
## 413 2023-08-06    Email    @frank_chat  Exciting news!  0.696377364
## 414 2023-08-20    Email   dave@example   Team meeting  0.985037738
## 415 2023-08-10    Slack   @erin_tweets Need assistance -0.904224418
## 416 2023-08-11    Email alice@example  Exciting news! -0.901918261
## 417 2023-08-14    Slack   @erin_tweets   Fun weekend! -0.259928443
## 418 2023-08-20    Slack   carol_slack  Exciting news!  0.221250645
## 419 2023-08-13 Twitter alice@example   Team meeting  0.892404643
## 420 2023-08-06    Slack alice@example    Great work! -0.545365768
## 421 2023-08-12    Email    @frank_chat Need assistance -0.104900640
## 422 2023-08-20 Twitter   dave@example   Fun weekend! -0.818538250
## 423 2023-08-20 Twitter   @erin_tweets    Great work! -0.349391197
## 424 2023-08-02    Email   dave@example  Exciting news! -0.212464974
## 425 2023-08-19 Twitter   carol_slack    Team meeting  0.317846402
## 426 2023-08-09    Slack alice@example   Fun weekend!  0.690391378
## 427 2023-08-11    Email    @bob_tweets Hello everyone!  0.576369455
## 428 2023-08-14 Twitter   @erin_tweets Need assistance -0.543064435
## 429 2023-08-09    Slack   dave@example   Fun weekend!  0.229193896
## 430 2023-08-16 Twitter   dave@example   Fun weekend! -0.286604216
## 431 2023-08-05 Twitter    @bob_tweets Hello everyone! -0.038818533
## 432 2023-08-01 Twitter    @frank_chat    Great work!  0.473425272
## 433 2023-08-10 Twitter    @bob_tweets   Fun weekend!  0.346377916
## 434 2023-08-04    Slack    @frank_chat Need assistance  0.933738099
## 435 2023-08-20    Email   carol_slack    Great work!  0.680826971
## 436 2023-08-20    Slack   carol_slack    Great work! -0.574539005
## 437 2023-08-10    Slack   dave@example  Exciting news! -0.762122771
## 438 2023-08-12    Email   dave@example    Great work!  0.480317921
## 439 2023-08-09    Email   @erin_tweets   Team meeting -0.956999032
## 440 2023-08-07    Slack alice@example   Fun weekend!  0.397376804
## 441 2023-08-04    Email    @frank_chat    Great work!  0.263225980
## 442 2023-08-06    Email    @frank_chat   Fun weekend!  0.791513952
## 443 2023-08-08    Email    @frank_chat  Exciting news! -0.050068120
## 444 2023-08-07 Twitter   carol_slack Hello everyone! -0.355751095
## 445 2023-08-09 Twitter alice@example Hello everyone!  0.184942272
## 446 2023-08-14 Twitter   @erin_tweets    Great work!  0.468599080
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## 447   2023-08-14 Twitter alice@example  Exciting news!  0.157755047
## 448   2023-08-10   Email alice@example     Great work!  0.693037350
## 449   2023-08-16   Email alice@example     Great work!  0.360768258
## 450   2023-08-10 Twitter    @frank_chat     Great work!  0.214199054
## 451   2023-08-08   Email  dave@example Need assistance -0.998774239
## 452   2023-08-10   Email   carol_slack   Team meeting -0.970338997
## 453   2023-08-08 Twitter   carol_slack    Fun weekend!  0.232626481
## 454   2023-08-11   Slack  @bob_tweets  Exciting news! -0.033773244
## 455   2023-08-20 Twitter    @frank_chat   Team meeting -0.476500273
## 456   2023-08-17   Email  @erin_tweets   Team meeting  0.863822790
## 457   2023-08-18   Slack  @erin_tweets  Exciting news! -0.719712700
## 458   2023-08-13 Twitter  @bob_tweets Need assistance  0.408644735
## 459   2023-08-11 Twitter   carol_slack     Great work!  0.910158344
## 460   2023-08-06 Twitter  dave@example Need assistance -0.064178423
## 461   2023-08-03 Twitter alice@example Hello everyone! -0.567197050
## 462   2023-08-15   Slack  dave@example Hello everyone! -0.510870771
## 463   2023-08-13   Email  @erin_tweets Hello everyone! -0.939573104
## 464   2023-08-16   Email  dave@example Need assistance -0.014521594
## 465   2023-08-16   Email    @frank_chat   Team meeting -0.287118956
## 466   2023-08-05   Email   carol_slack Need assistance  0.558824511
## 467   2023-08-16   Email    @frank_chat Need assistance  0.343977793
## 468   2023-08-15   Email  dave@example Hello everyone!  0.282330315
## 469   2023-08-06 Twitter   @bob_tweets Hello everyone!  0.116596443
## 470   2023-08-13 Twitter    @frank_chat  Exciting news!  0.368110256
## 471   2023-08-10 Twitter alice@example     Great work!  0.266619468
## 472   2023-08-18 Twitter   @bob_tweets  Exciting news!  0.290797958
## 473   2023-08-20 Twitter  @erin_tweets   Team meeting  0.341763970
## 474   2023-08-13 Twitter   @bob_tweets Need assistance -0.883181106
## 475   2023-08-20   Slack alice@example Hello everyone! -0.863882122
## 476   2023-08-04 Twitter  dave@example    Fun weekend!  0.463157478
## 477   2023-08-05   Email    @frank_chat  Exciting news!  0.567230823
## 478   2023-08-17 Twitter alice@example     Great work! -0.641657173
## 479   2023-08-08   Email  @erin_tweets  Exciting news! -0.847681918
## 480   2023-08-05   Email    @frank_chat   Team meeting -0.094959955
## 481   2023-08-08 Twitter   @bob_tweets   Team meeting -0.024243061
## 482   2023-08-18   Email  @erin_tweets Need assistance  0.171319252
## 483   2023-08-17   Slack   carol_slack Need assistance -0.750471560
## 484   2023-08-07   Email  dave@example Hello everyone! -0.526591262
## 485   2023-08-16 Twitter  @erin_tweets Hello everyone!  0.806540163
## 486   2023-08-05   Email   carol_slack Need assistance  0.300882405
## 487   2023-08-03 Twitter  @erin_tweets    Fun weekend! -0.345988781
## 488   2023-08-02   Email alice@example     Great work! -0.784876938
## 489   2023-08-13   Slack   carol_slack     Great work! -0.947211589
## 490   2023-08-09   Email  @erin_tweets    Fun weekend!  0.513564137
## 491   2023-08-04   Email   @bob_tweets   Team meeting -0.235653992
## 492   2023-08-04   Email alice@example Hello everyone!  0.161035733
## 493   2023-08-16   Email    @frank_chat    Fun weekend!  0.402509230
## 494   2023-08-13 Twitter    @frank_chat Hello everyone! -0.426096413
## 495   2023-08-04 Twitter   @bob_tweets Hello everyone! -0.774547359
## 496   2023-08-16 Twitter  @erin_tweets   Team meeting -0.674190784
## 497   2023-08-11   Slack    @frank_chat Need assistance  0.235724795
## 498   2023-08-15   Slack    @frank_chat Hello everyone!  0.058449768
## 499   2023-08-20   Email    @frank_chat   Team meeting -0.993759494
## 500   2023-08-06   Slack  dave@example   Team meeting -0.536957865
## 501   2023-08-05 Twitter  dave@example   Team meeting  0.779166287
## 502   2023-08-07   Slack alice@example   Team meeting  0.569526526
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## 503  2023-08-06    Email   @erin_tweets Need assistance  0.664381829
## 504  2023-08-07    Slack   dave@example Need assistance -0.718395420
## 505  2023-08-09 Twitter    @bob_tweets    Team meeting  0.526457346
## 506  2023-08-06    Email    @bob_tweets     Great work! -0.400677142
## 507  2023-08-17 Twitter    @frank_chat    Team meeting -0.232014328
## 508  2023-08-15 Twitter alice@example  Exciting news!  0.153143482
## 509  2023-08-01 Twitter    @bob_tweets Hello everyone! -0.918783627
## 510  2023-08-09    Email    @bob_tweets    Fun weekend! -0.375794835
## 511  2023-08-05 Twitter  dave@example    Fun weekend! -0.021554315
## 512  2023-08-10    Slack   @erin_tweets Need assistance  0.086844633
## 513  2023-08-16    Slack   dave@example Need assistance  0.484403751
## 514  2023-08-07    Email    @bob_tweets    Team meeting -0.423585835
## 515  2023-08-07    Email   dave@example  Exciting news! -0.184577833
## 516  2023-08-18    Email   dave@example Hello everyone!  0.978220029
## 517  2023-08-17 Twitter    @frank_chat    Fun weekend! -0.624432764
## 518  2023-08-15 Twitter    carol_slack    Team meeting  0.498292263
## 519  2023-08-13 Twitter    carol_slack  Exciting news!  0.771407587
## 520  2023-08-12    Email   dave@example    Fun weekend!  0.650773503
## 521  2023-08-19 Twitter alice@example Need assistance  0.143810244
## 522  2023-08-19 Twitter   @erin_tweets    Team meeting  0.945942261
## 523  2023-08-12    Slack   dave@example  Exciting news!  0.563268560
## 524  2023-08-17    Email   dave@example    Fun weekend! -0.173903828
## 525  2023-08-07    Email    @frank_chat    Team meeting  0.192018484
## 526  2023-08-16    Email    carol_slack Hello everyone! -0.029610693
## 527  2023-08-08    Email alice@example  Exciting news!  0.723251828
## 528  2023-08-07    Email    @bob_tweets  Exciting news! -0.616928389
## 529  2023-08-01 Twitter   @erin_tweets Hello everyone!  0.524320859
## 530  2023-08-07    Email   dave@example     Great work! -0.359934055
## 531  2023-08-11    Slack    @frank_chat     Great work!  0.431652104
## 532  2023-08-04 Twitter    carol_slack  Exciting news! -0.615862965
## 533  2023-08-11    Email   @erin_tweets     Great work! -0.049498704
## 534  2023-08-19 Twitter alice@example    Fun weekend! -0.111042333
## 535  2023-08-03    Email    carol_slack Need assistance  0.247236022
## 536  2023-08-09    Email   @erin_tweets    Fun weekend!  0.237909144
## 537  2023-08-19    Email    @frank_chat    Team meeting -0.943049938
## 538  2023-08-08    Email    @frank_chat     Great work!  0.362224979
## 539  2023-08-14    Slack   dave@example     Great work!  0.538406652
## 540  2023-08-19    Email   dave@example     Great work! -0.336303487
## 541  2023-08-12    Slack alice@example Need assistance  0.454688824
## 542  2023-08-11    Slack    @frank_chat    Team meeting -0.642315470
## 543  2023-08-14 Twitter    @bob_tweets  Exciting news!  0.754322437
## 544  2023-08-10    Slack alice@example Need assistance -0.236316590
## 545  2023-08-19    Email   @erin_tweets    Fun weekend!  0.149510738
## 546  2023-08-09 Twitter alice@example Hello everyone!  0.762754925
## 547  2023-08-14 Twitter    @bob_tweets Hello everyone!  0.250149151
## 548  2023-08-08    Email    @bob_tweets Need assistance -0.249764988
## 549  2023-08-04    Slack    @bob_tweets Hello everyone! -0.161284721
## 550  2023-08-05 Twitter alice@example    Team meeting  0.082249742
## 551  2023-08-13 Twitter   @erin_tweets     Great work! -0.956337988
## 552  2023-08-15    Email    @frank_chat     Great work!  0.120376800
## 553  2023-08-08 Twitter    @frank_chat    Fun weekend! -0.673607849
## 554  2023-08-15    Slack   @erin_tweets    Team meeting  0.457860831
## 555  2023-08-08    Email   @erin_tweets Need assistance -0.775436828
## 556  2023-08-10    Slack   dave@example  Exciting news!  0.532747218
## 557  2023-08-18    Slack    @frank_chat    Team meeting -0.134102609
## 558  2023-08-20 Twitter alice@example     Fun weekend! -0.436848105
```

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## 559   2023-08-18    Email  alice@example  Need assistance   0.275121063
## 560   2023-08-12    Email   @erin_tweets  Need assistance   0.866607873
## 561   2023-08-10    Slack    @bob_tweets    Exciting news!   0.027252671
## 562   2023-08-07    Slack   dave@example    Exciting news!  -0.823877914
## 563   2023-08-19  Twitter  alice@example     Team meeting  -0.299451457
## 564   2023-08-20  Twitter   dave@example    Exciting news!  -0.542942689
## 565   2023-08-04    Slack   dave@example      Fun weekend!   0.796501584
## 566   2023-08-20    Slack    @bob_tweets     Team meeting  -0.118006961
## 567   2023-08-04    Email   @erin_tweets  Need assistance  -0.070094255
## 568   2023-08-18  Twitter    @bob_tweets      Fun weekend!   0.590919483
## 569   2023-08-01  Twitter   dave@example   Hello everyone!   0.530999278
## 570   2023-08-17  Twitter  alice@example   Hello everyone!   0.582868762
## 571   2023-08-12    Slack    carol_slack  Need assistance  -0.919222645
## 572   2023-08-18  Twitter    @frank_chat     Team meeting   0.818109252
## 573   2023-08-10    Email    @bob_tweets    Exciting news!   0.664575256
## 574   2023-08-18    Email   dave@example    Exciting news!  -0.768564025
## 575   2023-08-20    Slack    carol_slack      Great work!  -0.595158034
## 576   2023-08-06    Slack  alice@example  Need assistance   0.037042340
## 577   2023-08-14  Twitter   dave@example      Fun weekend!  -0.064443091
## 578   2023-08-13    Email   @erin_tweets      Fun weekend!   0.496487776
## 579   2023-08-14  Twitter    @frank_chat     Team meeting   0.499737595
## 580   2023-08-17  Twitter  alice@example   Hello everyone!  -0.605858998
## 581   2023-08-03    Email    @frank_chat   Hello everyone!   0.488557915
## 582   2023-08-07  Twitter    @frank_chat      Great work!  -0.823533585
## 583   2023-08-15  Twitter    @frank_chat   Hello everyone!   0.384222084
## 584   2023-08-15    Email  alice@example     Team meeting   0.176413531
## 585   2023-08-10    Email    @frank_chat   Hello everyone!   0.051583528
## 586   2023-08-02    Slack  alice@example      Fun weekend!  -0.485003887
## 587   2023-08-01    Slack   @erin_tweets     Team meeting   0.031597136
## 588   2023-08-15    Email    @frank_chat  Need assistance  -0.438784983
## 589   2023-08-09    Email    @bob_tweets   Hello everyone!   0.703965933
## 590   2023-08-16    Slack   dave@example      Fun weekend!   0.438361928
## 591   2023-08-14    Email    @bob_tweets   Hello everyone!   0.498191035
## 592   2023-08-04  Twitter   dave@example      Fun weekend!  -0.495438306
## 593   2023-08-20    Slack    @frank_chat      Great work!   0.606102686
## 594   2023-08-07    Email    @frank_chat   Hello everyone!  -0.143556185
## 595   2023-08-02  Twitter    carol_slack   Hello everyone!   0.450987421
## 596   2023-08-05    Slack    carol_slack      Great work!   0.470731148
## 597   2023-08-07    Email   dave@example      Fun weekend!  -0.735883705
## 598   2023-08-15    Slack    @frank_chat      Great work!   0.960373470
## 599   2023-08-19    Email    @bob_tweets     Team meeting   0.855612874
## 600   2023-08-02    Slack    @bob_tweets    Exciting news!   0.365244868
## 601   2023-08-01    Slack    @bob_tweets    Exciting news!  -0.024743940
## 602   2023-08-01    Email    @frank_chat      Fun weekend!  -0.797102704
## 603   2023-08-07  Twitter  alice@example     Team meeting  -0.365139902
## 604   2023-08-15    Email  alice@example  Need assistance  -0.264464825
## 605   2023-08-08    Slack   @erin_tweets  Need assistance  -0.461871512
## 606   2023-08-18  Twitter    carol_slack  Need assistance  -0.107154121
## 607   2023-08-17    Email    @frank_chat     Team meeting  -0.229243480
## 608   2023-08-17  Twitter   dave@example  Need assistance  -0.035525655
## 609   2023-08-10    Email    @bob_tweets     Team meeting   0.253805156
## 610   2023-08-15  Twitter    @frank_chat  Need assistance   0.344264537
## 611   2023-08-12  Twitter    @bob_tweets      Great work!  -0.405934577
## 612   2023-08-13  Twitter   @erin_tweets      Great work!   0.515643027
## 613   2023-08-17  Twitter   @erin_tweets   Hello everyone!  -0.606922586
## 614   2023-08-02  Twitter    carol_slack   Hello everyone!   0.173851238
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## 615  2023-08-10   Slack   @frank_chat  Exciting news!  0.769946682
## 616  2023-08-06   Email   @erin_tweets Hello everyone! -0.172054263
## 617  2023-08-04   Email    carol_slack Need assistance  0.188933107
## 618  2023-08-06   Email   dave@example Hello everyone! -0.987261285
## 619  2023-08-03 Twitter alice@example Need assistance  0.747163485
## 620  2023-08-14 Twitter    @frank_chat    Fun weekend! -0.672147054
## 621  2023-08-09 Twitter alice@example  Exciting news! -0.792284821
## 622  2023-08-12   Email alice@example  Exciting news!  0.063475272
## 623  2023-08-13 Twitter alice@example     Great work! -0.026141260
## 624  2023-08-05   Email   @erin_tweets     Great work!  0.830162693
## 625  2023-08-15   Email    carol_slack    Fun weekend! -0.141636565
## 626  2023-08-12 Twitter   @erin_tweets    Fun weekend!  0.038330505
## 627  2023-08-04 Twitter alice@example    Fun weekend! -0.693275109
## 628  2023-08-05   Slack   @bob_tweets Need assistance  0.291605130
## 629  2023-08-19 Twitter  dave@example Need assistance -0.115035673
## 630  2023-08-02 Twitter    carol_slack Need assistance  0.215954025
## 631  2023-08-08   Email alice@example     Great work! -0.068923920
## 632  2023-08-10 Twitter    @frank_chat    Team meeting -0.289186294
## 633  2023-08-10 Twitter    carol_slack  Exciting news!  0.030849482
## 634  2023-08-15 Twitter  dave@example    Fun weekend!  0.345517721
## 635  2023-08-14   Email   @bob_tweets Need assistance  0.330107941
## 636  2023-08-13   Email alice@example Hello everyone!  0.042741961
## 637  2023-08-06   Slack    carol_slack  Exciting news! -0.633368273
## 638  2023-08-19   Slack   @erin_tweets     Great work! -0.725357866
## 639  2023-08-03   Slack   @erin_tweets    Team meeting -0.812502595
## 640  2023-08-08 Twitter    @bob_tweets     Great work!  0.564973874
## 641  2023-08-13 Twitter  dave@example    Fun weekend! -0.042934414
## 642  2023-08-17   Slack    carol_slack    Fun weekend!  0.169502832
## 643  2023-08-12   Email alice@example     Great work!  0.383860287
## 644  2023-08-06   Slack   @bob_tweets    Fun weekend! -0.895003283
## 645  2023-08-06 Twitter  dave@example    Fun weekend!  0.005671109
## 646  2023-08-08   Email    @frank_chat Need assistance -0.992002849
## 647  2023-08-06   Email   @erin_tweets Hello everyone!  0.905330024
## 648  2023-08-16   Email    @frank_chat    Fun weekend! -0.552409418
## 649  2023-08-07   Slack   @erin_tweets    Team meeting -0.780283807
## 650  2023-08-14   Email   @erin_tweets    Fun weekend! -0.835450725
## 651  2023-08-08 Twitter alice@example     Great work! -0.236779108
## 652  2023-08-09 Twitter  dave@example     Great work! -0.495721815
## 653  2023-08-01 Twitter    carol_slack     Great work!  0.406890230
## 654  2023-08-08 Twitter alice@example    Team meeting  0.870818266
## 655  2023-08-14   Email  dave@example    Fun weekend!  0.304697359
## 656  2023-08-03   Slack    @frank_chat  Exciting news!  0.591279314
## 657  2023-08-15   Slack    @frank_chat    Fun weekend!  0.816346027
## 658  2023-08-14   Email   @erin_tweets Hello everyone! -0.446434771
## 659  2023-08-05   Email alice@example    Fun weekend!  0.347548683
## 660  2023-08-18   Slack   @bob_tweets    Fun weekend!  0.567603516
## 661  2023-08-19 Twitter    @frank_chat  Exciting news!  0.388266448
## 662  2023-08-15 Twitter   @bob_tweets    Team meeting -0.144443278
## 663  2023-08-01   Email   @bob_tweets Hello everyone!  0.902623749
## 664  2023-08-13 Twitter    @frank_chat    Team meeting -0.877922161
## 665  2023-08-06   Slack alice@example Hello everyone!  0.710270591
## 666  2023-08-09   Email   @bob_tweets Hello everyone! -0.725457437
## 667  2023-08-07   Email   @bob_tweets    Team meeting -0.232356975
## 668  2023-08-05 Twitter  dave@example     Great work!  0.245927144
## 669  2023-08-02 Twitter    @frank_chat Need assistance -0.115179492
## 670  2023-08-08   Slack alice@example Hello everyone! -0.812013249
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## 671  2023-08-02    Slack   carol_slack Hello everyone!  0.805289558
## 672  2023-08-10    Email   @frank_chat    Team meeting -0.320194449
## 673  2023-08-14    Slack   @bob_tweets Hello everyone!  0.450289166
## 674  2023-08-18    Email   carol_slack  Exciting news! -0.546088908
## 675  2023-08-14  Twitter   @bob_tweets     Great work! -0.018533767
## 676  2023-08-03    Slack   carol_slack     Great work! -0.777630202
## 677  2023-08-04    Email   @bob_tweets     Fun weekend!  0.419715998
## 678  2023-08-11  Twitter  @erin_tweets    Team meeting -0.351081788
## 679  2023-08-04  Twitter  @erin_tweets Hello everyone! -0.217646003
## 680  2023-08-10    Slack alice@example    Team meeting  0.425960287
## 681  2023-08-11    Slack   @frank_chat    Team meeting -0.203160496
## 682  2023-08-13    Slack alice@example Need assistance -0.100954488
## 683  2023-08-13    Slack   carol_slack Need assistance  0.886342321
## 684  2023-08-18    Email   carol_slack Need assistance  0.121493359
## 685  2023-08-09    Slack   carol_slack Hello everyone!  0.902016178
## 686  2023-08-02  Twitter alice@example Need assistance  0.157653404
## 687  2023-08-13    Slack alice@example    Team meeting -0.493501368
## 688  2023-08-09    Email  dave@example    Team meeting  0.746085706
## 689  2023-08-12  Twitter alice@example  Exciting news! -0.487793705
## 690  2023-08-06    Email   carol_slack Hello everyone!  0.076276061
## 691  2023-08-08  Twitter alice@example    Fun weekend! -0.329790550
## 692  2023-08-10  Twitter   @frank_chat  Exciting news! -0.149807401
## 693  2023-08-15  Twitter  @erin_tweets Need assistance  0.599532404
## 694  2023-08-03    Email   @frank_chat     Great work! -0.022698464
## 695  2023-08-05    Email  @erin_tweets  Exciting news! -0.283369262
## 696  2023-08-16    Slack   @frank_chat    Team meeting -0.933677876
## 697  2023-08-16    Slack   @frank_chat Hello everyone! -0.878399170
## 698  2023-08-11    Slack   @bob_tweets     Great work!  0.041871845
## 699  2023-08-07    Slack   @bob_tweets     Great work! -0.311243319
## 700  2023-08-12    Email   @frank_chat  Exciting news!  0.777389107
## 701  2023-08-01    Slack   @frank_chat Hello everyone! -0.572465386
## 702  2023-08-09    Email   @frank_chat    Fun weekend! -0.372473280
## 703  2023-08-12  Twitter  dave@example Need assistance -0.713639749
## 704  2023-08-12    Slack   carol_slack     Great work!  0.874556832
## 705  2023-08-17    Slack   @frank_chat     Great work! -0.700269639
## 706  2023-08-13    Email   @frank_chat Need assistance  0.935812009
## 707  2023-08-08    Slack   carol_slack  Exciting news!  0.055117640
## 708  2023-08-10    Slack   @bob_tweets    Fun weekend!  0.957983019
## 709  2023-08-09    Slack alice@example  Exciting news! -0.539138246
## 710  2023-08-05  Twitter alice@example  Exciting news!  0.722319741
## 711  2023-08-15  Twitter  @erin_tweets Hello everyone!  0.768580468
## 712  2023-08-14    Slack   @frank_chat  Exciting news! -0.054910814
## 713  2023-08-05  Twitter  dave@example     Great work!  0.544805384
## 714  2023-08-02  Twitter   carol_slack  Exciting news! -0.693217811
## 715  2023-08-18    Slack   @bob_tweets Hello everyone! -0.164491392
## 716  2023-08-08    Email  @erin_tweets    Fun weekend!  0.378708432
## 717  2023-08-12    Email   @frank_chat Need assistance  0.544408341
## 718  2023-08-09  Twitter   @bob_tweets  Exciting news!  0.605349668
## 719  2023-08-16  Twitter alice@example  Exciting news!  0.696509592
## 720  2023-08-13  Twitter   @frank_chat Hello everyone! -0.694118693
## 721  2023-08-08    Email  @erin_tweets    Fun weekend!  0.734125260
## 722  2023-08-03    Email   @frank_chat     Great work! -0.222633559
## 723  2023-08-14    Email alice@example     Great work! -0.111933967
## 724  2023-08-06    Email   @bob_tweets     Great work! -0.417041691
## 725  2023-08-12    Email  dave@example     Great work! -0.841218561
## 726  2023-08-03    Slack  @erin_tweets Need assistance -0.173975688
```

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## 727  2023-08-12   Email    @frank_chat    Fun weekend! -0.102208237
## 728  2023-08-15   Email   dave@example  Need assistance  0.773382573
## 729  2023-08-14   Slack   @erin_tweets Hello everyone!  0.605556316
## 730  2023-08-20   Email  alice@example    Fun weekend!  0.851679420
## 731  2023-08-07   Email    @bob_tweets   Exciting news!  0.244900235
## 732  2023-08-10 Twitter   dave@example      Great work! -0.505026447
## 733  2023-08-13   Slack   @erin_tweets Need assistance -0.544543609
## 734  2023-08-12   Slack    @bob_tweets    Fun weekend!  0.990166281
## 735  2023-08-20   Email    @frank_chat    Team meeting  0.560076173
## 736  2023-08-09   Slack    carol_slack Hello everyone! -0.289897254
## 737  2023-08-03   Email  alice@example Hello everyone!  0.713812393
## 738  2023-08-08 Twitter   @erin_tweets    Fun weekend!  0.191519982
## 739  2023-08-13   Slack    carol_slack     Great work!  0.460303653
## 740  2023-08-10   Slack   @erin_tweets Need assistance  0.037588875
## 741  2023-08-05 Twitter    carol_slack Hello everyone!  0.130742100
## 742  2023-08-15   Email    @bob_tweets    Team meeting -0.801572199
## 743  2023-08-14   Slack   @erin_tweets   Exciting news! -0.736287751
## 744  2023-08-18   Slack    @bob_tweets    Team meeting  0.403409261
## 745  2023-08-07   Slack  alice@example     Great work!  0.580541194
## 746  2023-08-13   Email   dave@example     Great work!  0.550955762
## 747  2023-08-11 Twitter   @frank_chat    Team meeting -0.303564250
## 748  2023-08-14   Email    carol_slack  Exciting news!  0.596924395
## 749  2023-08-02 Twitter   @bob_tweets Need assistance -0.281915764
## 750  2023-08-19 Twitter    carol_slack    Team meeting  0.578111817
## 751  2023-08-14 Twitter   dave@example Need assistance -0.273263505
## 752  2023-08-13   Email    @frank_chat     Great work! -0.693289580
## 753  2023-08-18   Slack   @erin_tweets Hello everyone! -0.395961934
## 754  2023-08-15 Twitter   @erin_tweets Need assistance  0.787741330
## 755  2023-08-01 Twitter    @frank_chat Need assistance -0.970480603
## 756  2023-08-03   Slack  alice@example    Fun weekend!  0.542070733
## 757  2023-08-07   Slack    @bob_tweets Need assistance  0.251102221
## 758  2023-08-01   Slack    @frank_chat    Team meeting -0.113114946
## 759  2023-08-08   Email  alice@example Hello everyone! -0.666331347
## 760  2023-08-01   Email    @bob_tweets    Team meeting  0.783531986
## 761  2023-08-05   Slack   dave@example     Great work!  0.018169560
## 762  2023-08-02   Email    @frank_chat    Fun weekend!  0.129630754
## 763  2023-08-08   Slack   @erin_tweets    Team meeting  0.849549761
## 764  2023-08-11 Twitter    carol_slack     Great work!  0.782265475
## 765  2023-08-12   Email  alice@example  Exciting news! -0.995861550
## 766  2023-08-11   Slack    @bob_tweets     Great work! -0.549234209
## 767  2023-08-03   Email    @frank_chat    Fun weekend!  0.992682932
## 768  2023-08-08 Twitter    carol_slack  Exciting news!  0.614791796
## 769  2023-08-01 Twitter   @erin_tweets Hello everyone! -0.325806037
## 770  2023-08-10   Slack    @bob_tweets  Exciting news! -0.873230109
## 771  2023-08-12   Email  alice@example    Team meeting  0.255163795
## 772  2023-08-16   Email    carol_slack Hello everyone! -0.851052538
## 773  2023-08-10 Twitter   @erin_tweets     Great work!  0.181200765
## 774  2023-08-09   Email    @frank_chat Hello everyone! -0.633588556
## 775  2023-08-01 Twitter    @frank_chat     Great work!  0.159243134
## 776  2023-08-15   Slack   dave@example     Great work! -0.481857921
## 777  2023-08-19 Twitter  alice@example Hello everyone! -0.378329881
## 778  2023-08-04 Twitter    @frank_chat  Exciting news!  0.795437461
## 779  2023-08-16 Twitter    @bob_tweets     Great work! -0.674055766
## 780  2023-08-07   Slack   dave@example Hello everyone!  0.747580624
## 781  2023-08-14 Twitter    carol_slack Need assistance  0.739025190
## 782  2023-08-15   Slack    @frank_chat Hello everyone! -0.508614742
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## 783  2023-08-14 Twitter   @bob_tweets  Exciting news!  0.671785708
## 784  2023-08-10   Slack  alice@example Need assistance -0.917325706
## 785  2023-08-09 Twitter   @erin_tweets Need assistance -0.600080754
## 786  2023-08-11   Email   @bob_tweets     Great work! -0.539260621
## 787  2023-08-02   Slack   carol_slack     Great work!  0.066785066
## 788  2023-08-15 Twitter   carol_slack    Team meeting -0.074092148
## 789  2023-08-06 Twitter   @bob_tweets  Exciting news!  0.979591473
## 790  2023-08-07   Slack   @bob_tweets Need assistance -0.846264025
## 791  2023-08-15   Slack   @erin_tweets Hello everyone! -0.562214842
## 792  2023-08-15   Email   @frank_chat    Fun weekend!  0.535877908
## 793  2023-08-13   Slack  dave@example Hello everyone! -0.945477226
## 794  2023-08-12 Twitter   @erin_tweets Need assistance -0.329706852
## 795  2023-08-19 Twitter   @bob_tweets Hello everyone!  0.420571170
## 796  2023-08-19 Twitter   @frank_chat  Exciting news!  0.221380584
## 797  2023-08-06 Twitter   carol_slack    Fun weekend!  0.394200163
## 798  2023-08-11   Slack   carol_slack    Team meeting  0.921573296
## 799  2023-08-12   Slack   carol_slack    Team meeting  0.504667453
## 800  2023-08-13   Slack  alice@example   Team meeting -0.927027794
## 801  2023-08-14   Email   @bob_tweets    Team meeting -0.996662613
## 802  2023-08-09   Slack   @erin_tweets   Fun weekend!  0.525517232
## 803  2023-08-17   Slack  alice@example    Great work! -0.853163924
## 804  2023-08-09   Slack   carol_slack Hello everyone!  0.346090994
## 805  2023-08-06   Slack   @erin_tweets  Exciting news!  0.063273371
## 806  2023-08-19   Slack   @frank_chat    Team meeting -0.887928675
## 807  2023-08-17 Twitter   @frank_chat    Team meeting -0.608078998
## 808  2023-08-10   Email   @erin_tweets Hello everyone!  0.063933458
## 809  2023-08-12 Twitter   @bob_tweets    Fun weekend!  0.226440192
## 810  2023-08-18   Slack  alice@example    Great work! -0.114574431
## 811  2023-08-17 Twitter   carol_slack Need assistance -0.065970336
## 812  2023-08-10   Slack   @frank_chat Hello everyone!  0.672468295
## 813  2023-08-12   Email  alice@example  Exciting news! -0.616592484
## 814  2023-08-04   Slack   @frank_chat Need assistance  0.165087673
## 815  2023-08-13   Email   @bob_tweets  Exciting news!  0.553149406
## 816  2023-08-04   Email   @bob_tweets    Fun weekend! -0.953222217
## 817  2023-08-09   Email  alice@example    Fun weekend!  0.893210486
## 818  2023-08-11 Twitter  alice@example Hello everyone! -0.120084892
## 819  2023-08-08   Slack   @erin_tweets Hello everyone! -0.568787924
## 820  2023-08-11   Email  alice@example   Team meeting -0.641849058
## 821  2023-08-18 Twitter  alice@example    Fun weekend!  0.977650215
## 822  2023-08-16   Slack   @frank_chat    Fun weekend!  0.269629325
## 823  2023-08-06   Slack   carol_slack Need assistance  0.572155187
## 824  2023-08-04   Slack   @frank_chat    Fun weekend! -0.530567507
## 825  2023-08-14 Twitter  dave@example    Fun weekend! -0.998980226
## 826  2023-08-09 Twitter   @frank_chat Hello everyone!  0.649366590
## 827  2023-08-12   Email   carol_slack    Team meeting -0.492082868
## 828  2023-08-03   Slack  alice@example Need assistance  0.135939530
## 829  2023-08-07   Slack  dave@example Hello everyone!  0.593321668
## 830  2023-08-18 Twitter  dave@example     Great work! -0.160749977
## 831  2023-08-20   Slack   carol_slack    Fun weekend!  0.231915887
## 832  2023-08-03   Email  alice@example    Fun weekend!  0.312383833
## 833  2023-08-14   Slack   @bob_tweets    Team meeting -0.709024122
## 834  2023-08-18 Twitter   @bob_tweets    Fun weekend!  0.866654206
## 835  2023-08-03   Email  alice@example Hello everyone! -0.440484574
## 836  2023-08-12 Twitter   carol_slack    Team meeting  0.704733795
## 837  2023-08-10 Twitter   carol_slack     Great work!  0.268422757
## 838  2023-08-18   Slack   @bob_tweets    Fun weekend! -0.898072343
```

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## 839   2023-08-19   Email    @frank_chat     Great work!  0.463513046
## 840   2023-08-03   Email    carol_slack Need assistance -0.161143415
## 841   2023-08-19   Email  alice@example Hello everyone! -0.040838550
## 842   2023-08-11   Slack    @frank_chat     Fun weekend!  0.312006338
## 843   2023-08-20   Slack    @bob_tweets Hello everyone!  0.520647362
## 844   2023-08-05 Twitter    @bob_tweets   Exciting news! -0.798021044
## 845   2023-08-14 Twitter  alice@example     Great work! -0.652119522
## 846   2023-08-10   Email    @bob_tweets   Exciting news! -0.286527871
## 847   2023-08-10 Twitter   @erin_tweets     Great work!  0.282790715
## 848   2023-08-07 Twitter   @erin_tweets     Great work! -0.597466531
## 849   2023-08-03   Slack    @frank_chat Hello everyone!  0.368215033
## 850   2023-08-08   Slack   @erin_tweets Need assistance  0.593302410
## 851   2023-08-16   Slack   @erin_tweets   Exciting news! -0.113282133
## 852   2023-08-12   Email    carol_slack Need assistance  0.937844194
## 853   2023-08-10   Email    @frank_chat     Fun weekend! -0.520876877
## 854   2023-08-19   Email   @erin_tweets     Great work!  0.570171806
## 855   2023-08-19   Email   dave@example    Team meeting -0.528815492
## 856   2023-08-05   Email    @bob_tweets Hello everyone!  0.725036937
## 857   2023-08-05 Twitter    carol_slack Hello everyone! -0.279889458
## 858   2023-08-12 Twitter    carol_slack     Fun weekend! -0.455487390
## 859   2023-08-03 Twitter    @bob_tweets Hello everyone!  0.401231622
## 860   2023-08-19 Twitter   @erin_tweets   Exciting news!  0.638825124
## 861   2023-08-05   Email  alice@example Hello everyone! -0.822144668
## 862   2023-08-07   Slack    @bob_tweets Hello everyone! -0.160779689
## 863   2023-08-14 Twitter    @bob_tweets     Fun weekend!  0.567614020
## 864   2023-08-11 Twitter   @erin_tweets Need assistance -0.102778860
## 865   2023-08-04 Twitter    @bob_tweets   Exciting news!  0.053784013
## 866   2023-08-07   Slack    @bob_tweets     Fun weekend! -0.511013610
## 867   2023-08-10 Twitter   dave@example    Team meeting -0.879799920
## 868   2023-08-06   Slack   @erin_tweets     Great work! -0.387922954
## 869   2023-08-10   Slack   dave@example   Exciting news! -0.750027833
## 870   2023-08-01   Slack    @bob_tweets Need assistance -0.614020258
## 871   2023-08-17   Email    @frank_chat   Exciting news! -0.770805090
## 872   2023-08-15 Twitter    carol_slack Hello everyone! -0.638266036
## 873   2023-08-16 Twitter   dave@example    Team meeting  0.796688539
## 874   2023-08-13   Slack    carol_slack Hello everyone! -0.416070993
## 875   2023-08-03   Slack    @bob_tweets     Great work!  0.884830707
## 876   2023-08-14 Twitter  alice@example     Great work! -0.232635738
## 877   2023-08-01 Twitter   @erin_tweets   Exciting news!  0.423581860
## 878   2023-08-05   Email  alice@example Need assistance  0.694902051
## 879   2023-08-14   Slack  alice@example Hello everyone! -0.798660460
## 880   2023-08-07 Twitter    @bob_tweets     Great work! -0.389785778
## 881   2023-08-12   Email  alice@example Need assistance  0.120129855
## 882   2023-08-14   Slack  alice@example Hello everyone! -0.691606675
## 883   2023-08-07   Slack    @bob_tweets     Great work!  0.872962321
## 884   2023-08-05 Twitter   @erin_tweets     Fun weekend!  0.619198539
## 885   2023-08-01   Email    carol_slack     Great work!  0.605523043
## 886   2023-08-14   Email   dave@example Hello everyone! -0.359136123
## 887   2023-08-16   Email    @bob_tweets     Great work! -0.351176404
## 888   2023-08-08 Twitter   dave@example Need assistance  0.911442756
## 889   2023-08-13   Email  alice@example Need assistance  0.596431601
## 890   2023-08-01 Twitter    carol_slack     Great work! -0.311684015
## 891   2023-08-09   Email    @frank_chat     Fun weekend! -0.789119672
## 892   2023-08-19   Slack    @frank_chat    Team meeting -0.472906698
## 893   2023-08-19   Slack   dave@example    Team meeting -0.789976987
## 894   2023-08-06   Slack    @bob_tweets Need assistance  0.743181323
```

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## 895 2023-08-01   Email    @frank_chat     Team meeting -0.307752223
## 896 2023-08-01   Email   dave@example     Great work! -0.948017055
## 897 2023-08-05   Email    @frank_chat     Team meeting  0.611721705
## 898 2023-08-06   Email   @erin_tweets Hello everyone! -0.318016798
## 899 2023-08-11   Slack   @erin_tweets     Team meeting -0.893834382
## 900 2023-08-20   Email    carol_slack     Team meeting  0.082343857
## 901 2023-08-03   Slack   @erin_tweets Need assistance -0.600851388
## 902 2023-08-18   Slack    @bob_tweets     Team meeting  0.192284770
## 903 2023-08-10   Email   dave@example Need assistance  0.834841503
## 904 2023-08-17 Twitter    @bob_tweets     Great work!  0.401612313
## 905 2023-08-08   Slack   @erin_tweets     Team meeting  0.068864945
## 906 2023-08-20 Twitter    @frank_chat   Exciting news!  0.307898677
## 907 2023-08-07 Twitter    @bob_tweets     Great work! -0.548428072
## 908 2023-08-15   Slack alice@example Need assistance  0.899728119
## 909 2023-08-08   Email    carol_slack     Great work!  0.710615378
## 910 2023-08-14   Email   @erin_tweets     Fun weekend!  0.035476264
## 911 2023-08-01 Twitter    @frank_chat Need assistance -0.003094339
## 912 2023-08-10 Twitter    @frank_chat     Fun weekend! -0.528116655
## 913 2023-08-20 Twitter   dave@example     Great work! -0.124954135
## 914 2023-08-10   Slack    @frank_chat Need assistance  0.626154714
## 915 2023-08-02   Slack    carol_slack     Fun weekend!  0.045978463
## 916 2023-08-09   Email   dave@example     Fun weekend!  0.698494015
## 917 2023-08-10   Slack    @frank_chat Need assistance -0.198273231
## 918 2023-08-13   Email    @bob_tweets Hello everyone!  0.264306294
## 919 2023-08-05   Slack   @erin_tweets     Fun weekend! -0.240693055
## 920 2023-08-20   Email   dave@example     Team meeting -0.075425136
## 921 2023-08-15 Twitter alice@example     Great work!  0.798867194
## 922 2023-08-18   Slack alice@example     Fun weekend! -0.088887415
## 923 2023-08-12 Twitter   @erin_tweets Need assistance  0.298994374
## 924 2023-08-17 Twitter alice@example   Exciting news!  0.968932204
## 925 2023-08-10   Slack   dave@example     Great work!  0.746216161
## 926 2023-08-10   Slack alice@example     Team meeting -0.939407335
## 927 2023-08-02   Slack    @bob_tweets     Great work! -0.666475324
## 928 2023-08-10 Twitter    carol_slack Need assistance  0.809991531
## 929 2023-08-09   Slack   dave@example Need assistance  0.662048494
## 930 2023-08-18 Twitter alice@example Hello everyone! -0.936083395
## 931 2023-08-01   Email    carol_slack     Great work! -0.389590032
## 932 2023-08-11   Email    carol_slack     Fun weekend!  0.355941510
## 933 2023-08-03   Slack   @erin_tweets Need assistance  0.896539724
## 934 2023-08-20   Email alice@example Hello everyone! -0.555095884
## 935 2023-08-17   Email   dave@example     Team meeting -0.047711935
## 936 2023-08-13 Twitter   dave@example   Exciting news! -0.618614707
## 937 2023-08-13 Twitter    carol_slack     Fun weekend! -0.412842807
## 938 2023-08-04   Email    @bob_tweets     Great work! -0.251496902
## 939 2023-08-16   Email    @bob_tweets Need assistance -0.459899545
## 940 2023-08-17 Twitter    carol_slack Need assistance -0.101536875
## 941 2023-08-06 Twitter    carol_slack   Exciting news! -0.329569053
## 942 2023-08-01   Slack alice@example   Exciting news!  0.350437745
## 943 2023-08-08   Email alice@example   Exciting news!  0.529548995
## 944 2023-08-13 Twitter alice@example     Great work! -0.806566573
## 945 2023-08-06   Slack    carol_slack   Exciting news! -0.249575844
## 946 2023-08-08   Email   @erin_tweets Hello everyone! -0.064463819
## 947 2023-08-20   Slack   @erin_tweets Hello everyone! -0.357717138
## 948 2023-08-01 Twitter    @frank_chat Need assistance -0.696885624
## 949 2023-08-02   Slack   dave@example   Exciting news! -0.662697271
## 950 2023-08-11   Email   dave@example Need assistance  0.060486035
```

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## 951  2023-08-11   Slack  @erin_tweets     Great work! -0.704862314
## 952  2023-08-05   Slack   @frank_chat Need assistance -0.129298556
## 953  2023-08-07   Email   @bob_tweets    Fun weekend!  0.079245736
## 954  2023-08-20 Twitter   carol_slack Hello everyone!  0.640248996
## 955  2023-08-01   Slack  dave@example Need assistance -0.988749139
## 956  2023-08-09   Email  @erin_tweets Need assistance  0.953375103
## 957  2023-08-12   Slack   carol_slack Need assistance -0.044029484
## 958  2023-08-19   Slack alice@example   Exciting news!  0.502961815
## 959  2023-08-17 Twitter   carol_slack   Exciting news! -0.237763272
## 960  2023-08-11 Twitter   @frank_chat Hello everyone!  0.807257727
## 961  2023-08-17 Twitter  @erin_tweets    Team meeting -0.666378770
## 962  2023-08-06   Email  dave@example Need assistance  0.492307736
## 963  2023-08-10   Email   @frank_chat   Exciting news! -0.010767524
## 964  2023-08-18   Email   @bob_tweets Need assistance  0.453627230
## 965  2023-08-07   Slack   carol_slack     Great work!  0.937586371
## 966  2023-08-09   Email   @frank_chat    Team meeting -0.712716471
## 967  2023-08-18 Twitter   @bob_tweets     Great work! -0.839583620
## 968  2023-08-06 Twitter  dave@example    Team meeting  0.165403601
## 969  2023-08-02   Slack  @erin_tweets     Great work! -0.887057793
## 970  2023-08-17   Email   @frank_chat Need assistance -0.837423526
## 971  2023-08-08   Email   @frank_chat    Team meeting  0.778342899
## 972  2023-08-20 Twitter  @erin_tweets   Exciting news!  0.131818828
## 973  2023-08-02 Twitter  @erin_tweets Need assistance  0.821079701
## 974  2023-08-08   Slack  @erin_tweets   Exciting news!  0.085280708
## 975  2023-08-01   Email  @erin_tweets    Fun weekend!  0.203746784
## 976  2023-08-12 Twitter  dave@example     Great work! -0.462906254
## 977  2023-08-19 Twitter alice@example Hello everyone!  0.857508211
## 978  2023-08-12 Twitter alice@example    Team meeting  0.582250814
## 979  2023-08-07   Slack   @bob_tweets     Great work!  0.170066014
## 980  2023-08-08 Twitter alice@example     Great work!  0.552484959
## 981  2023-08-14   Email  @erin_tweets     Great work! -0.129584252
## 982  2023-08-13   Email  @erin_tweets    Fun weekend!  0.418006041
## 983  2023-08-18   Email alice@example    Team meeting -0.377541550
## 984  2023-08-10 Twitter  dave@example    Fun weekend! -0.363247766
## 985  2023-08-03   Slack   @bob_tweets Need assistance  0.496275815
## 986  2023-08-08 Twitter   @bob_tweets Need assistance -0.716619523
## 987  2023-08-05   Email   @bob_tweets    Team meeting  0.243233590
## 988  2023-08-17   Slack  @erin_tweets Hello everyone!  0.937329018
## 989  2023-08-03   Slack  dave@example     Great work!  0.675534202
## 990  2023-08-07   Slack alice@example    Fun weekend!  0.844455994
## 991  2023-08-18   Slack   @frank_chat     Great work! -0.071027102
## 992  2023-08-12   Slack  @erin_tweets Hello everyone! -0.360894154
## 993  2023-08-10   Email   @bob_tweets Need assistance -0.316063035
## 994  2023-08-14   Slack  dave@example   Exciting news! -0.531753783
## 995  2023-08-04 Twitter  dave@example    Team meeting -0.785379849
## 996  2023-08-05 Twitter   @frank_chat Hello everyone!  0.599585856
## 997  2023-08-12 Twitter alice@example   Exciting news!  0.874988238
## 998  2023-08-07   Slack   carol_slack   Exciting news!  0.186763622
## 999  2023-08-08   Slack  @erin_tweets    Fun weekend!  0.172925062
## 1000 2023-08-03   Email   @frank_chat Hello everyone!  0.583445542
##      sentiment_label
## 1            Positive
## 2            Positive
## 3            Negative
## 4            Positive
## 5            Positive
```

```
## 6          Negative
## 7          Negative
## 8          Negative
## 9          Positive
## 10         Negative
## 11         Positive
## 12         Positive
## 13         Positive
## 14         Positive
## 15         Positive
## 16         Positive
## 17         Positive
## 18         Positive
## 19         Negative
## 20         Positive
## 21         Negative
## 22         Negative
## 23         Positive
## 24         Positive
## 25         Negative
## 26         Positive
## 27         Negative
## 28         Positive
## 29         Positive
## 30         Negative
## 31         Negative
## 32         Positive
## 33         Positive
## 34         Negative
## 35         Positive
## 36         Positive
## 37         Positive
## 38         Negative
## 39         Negative
## 40         Positive
## 41         Positive
## 42         Negative
## 43         Negative
## 44         Negative
## 45         Negative
## 46         Positive
## 47         Positive
## 48         Positive
## 49         Negative
## 50         Positive
## 51         Positive
## 52         Negative
## 53         Positive
## 54         Negative
## 55         Negative
## 56         Positive
## 57         Positive
## 58         Positive
## 59         Negative
## 60         Negative
## 61         Positive
```

```
## 62          Negative
## 63          Negative
## 64          Positive
## 65          Negative
## 66          Positive
## 67          Negative
## 68          Positive
## 69          Positive
## 70          Positive
## 71          Negative
## 72          Negative
## 73          Negative
## 74          Positive
## 75          Negative
## 76          Positive
## 77          Negative
## 78          Positive
## 79          Negative
## 80          Positive
## 81          Positive
## 82          Positive
## 83          Positive
## 84          Negative
## 85          Negative
## 86          Negative
## 87          Negative
## 88          Negative
## 89          Positive
## 90          Negative
## 91          Negative
## 92          Negative
## 93          Negative
## 94          Negative
## 95          Negative
## 96          Negative
## 97          Negative
## 98          Negative
## 99          Negative
## 100         Negative
## 101         Positive
## 102         Positive
## 103         Positive
## 104         Positive
## 105         Negative
## 106         Negative
## 107         Positive
## 108         Negative
## 109         Negative
## 110         Negative
## 111         Positive
## 112         Negative
## 113         Negative
## 114         Negative
## 115         Positive
## 116         Negative
## 117         Negative
```

```
## 118          Positive
## 119          Negative
## 120          Negative
## 121          Positive
## 122          Negative
## 123          Negative
## 124          Negative
## 125          Negative
## 126          Positive
## 127          Negative
## 128          Negative
## 129          Positive
## 130          Negative
## 131          Negative
## 132          Positive
## 133          Positive
## 134          Positive
## 135          Positive
## 136          Positive
## 137          Positive
## 138          Positive
## 139          Positive
## 140          Negative
## 141          Positive
## 142          Positive
## 143          Negative
## 144          Positive
## 145          Negative
## 146          Positive
## 147          Negative
## 148          Positive
## 149          Positive
## 150          Positive
## 151          Negative
## 152          Positive
## 153          Negative
## 154          Positive
## 155          Negative
## 156          Negative
## 157          Negative
## 158          Negative
## 159          Positive
## 160          Negative
## 161          Negative
## 162          Positive
## 163          Positive
## 164          Positive
## 165          Negative
## 166          Negative
## 167          Negative
## 168          Negative
## 169          Positive
## 170          Positive
## 171          Negative
## 172          Positive
## 173          Negative
```

```
## 174          Positive
## 175          Positive
## 176          Negative
## 177          Negative
## 178          Negative
## 179          Negative
## 180          Positive
## 181          Negative
## 182          Negative
## 183          Positive
## 184          Negative
## 185          Positive
## 186          Negative
## 187          Positive
## 188          Negative
## 189          Positive
## 190          Negative
## 191          Positive
## 192          Negative
## 193          Positive
## 194          Positive
## 195          Positive
## 196          Negative
## 197          Negative
## 198          Negative
## 199          Positive
## 200          Positive
## 201          Positive
## 202          Positive
## 203          Negative
## 204          Positive
## 205          Negative
## 206          Positive
## 207          Positive
## 208          Negative
## 209          Positive
## 210          Positive
## 211          Negative
## 212          Positive
## 213          Positive
## 214          Positive
## 215          Positive
## 216          Negative
## 217          Negative
## 218          Negative
## 219          Positive
## 220          Positive
## 221          Negative
## 222          Negative
## 223          Positive
## 224          Negative
## 225          Positive
## 226          Negative
## 227          Negative
## 228          Positive
## 229          Negative
```

```
## 230            Negative
## 231            Positive
## 232            Negative
## 233            Negative
## 234            Negative
## 235            Positive
## 236            Positive
## 237            Positive
## 238            Positive
## 239            Positive
## 240            Positive
## 241            Negative
## 242            Negative
## 243            Positive
## 244            Positive
## 245            Negative
## 246            Negative
## 247            Positive
## 248            Positive
## 249            Negative
## 250            Negative
## 251            Positive
## 252            Positive
## 253            Negative
## 254            Positive
## 255            Negative
## 256            Positive
## 257            Positive
## 258            Positive
## 259            Positive
## 260            Positive
## 261            Positive
## 262            Negative
## 263            Positive
## 264            Negative
## 265            Positive
## 266            Negative
## 267            Positive
## 268            Positive
## 269            Negative
## 270            Negative
## 271            Positive
## 272            Positive
## 273            Negative
## 274            Positive
## 275            Negative
## 276            Negative
## 277            Negative
## 278            Negative
## 279            Positive
## 280            Negative
## 281            Positive
## 282            Negative
## 283            Positive
## 284            Positive
## 285            Negative
```

```
## 286          Negative
## 287          Positive
## 288          Positive
## 289          Positive
## 290          Negative
## 291          Positive
## 292          Positive
## 293          Positive
## 294          Positive
## 295          Negative
## 296          Positive
## 297          Positive
## 298          Negative
## 299          Positive
## 300          Negative
## 301          Positive
## 302          Negative
## 303          Negative
## 304          Negative
## 305          Positive
## 306          Negative
## 307          Negative
## 308          Negative
## 309          Positive
## 310          Positive
## 311          Negative
## 312          Positive
## 313          Negative
## 314          Negative
## 315          Positive
## 316          Negative
## 317          Negative
## 318          Positive
## 319          Negative
## 320          Positive
## 321          Positive
## 322          Positive
## 323          Negative
## 324          Negative
## 325          Negative
## 326          Positive
## 327          Negative
## 328          Positive
## 329          Positive
## 330          Negative
## 331          Positive
## 332          Positive
## 333          Negative
## 334          Negative
## 335          Positive
## 336          Negative
## 337          Negative
## 338          Positive
## 339          Negative
## 340          Positive
## 341          Negative
```

```
## 342          Positive
## 343          Negative
## 344          Positive
## 345          Positive
## 346          Positive
## 347          Positive
## 348          Negative
## 349          Negative
## 350          Negative
## 351          Positive
## 352          Negative
## 353          Negative
## 354          Negative
## 355          Positive
## 356          Positive
## 357          Positive
## 358          Positive
## 359          Positive
## 360          Positive
## 361          Positive
## 362          Positive
## 363          Positive
## 364          Positive
## 365          Positive
## 366          Positive
## 367          Positive
## 368          Positive
## 369          Negative
## 370          Negative
## 371          Positive
## 372          Positive
## 373          Positive
## 374          Positive
## 375          Negative
## 376          Positive
## 377          Negative
## 378          Negative
## 379          Negative
## 380          Positive
## 381          Negative
## 382          Positive
## 383          Positive
## 384          Negative
## 385          Negative
## 386          Positive
## 387          Negative
## 388          Positive
## 389          Positive
## 390          Negative
## 391          Positive
## 392          Positive
## 393          Negative
## 394          Negative
## 395          Positive
## 396          Negative
## 397          Negative
```

```
## 398          Negative
## 399          Positive
## 400          Negative
## 401          Positive
## 402          Positive
## 403          Positive
## 404          Negative
## 405          Negative
## 406          Positive
## 407          Negative
## 408          Positive
## 409          Positive
## 410          Positive
## 411          Positive
## 412          Positive
## 413          Positive
## 414          Positive
## 415          Negative
## 416          Negative
## 417          Negative
## 418          Positive
## 419          Positive
## 420          Negative
## 421          Negative
## 422          Negative
## 423          Negative
## 424          Negative
## 425          Positive
## 426          Positive
## 427          Positive
## 428          Negative
## 429          Positive
## 430          Negative
## 431          Negative
## 432          Positive
## 433          Positive
## 434          Positive
## 435          Positive
## 436          Negative
## 437          Negative
## 438          Positive
## 439          Negative
## 440          Positive
## 441          Positive
## 442          Positive
## 443          Negative
## 444          Negative
## 445          Positive
## 446          Positive
## 447          Positive
## 448          Positive
## 449          Positive
## 450          Positive
## 451          Negative
## 452          Negative
## 453          Positive
```

```
## 454          Negative
## 455          Negative
## 456          Positive
## 457          Negative
## 458          Positive
## 459          Positive
## 460          Negative
## 461          Negative
## 462          Negative
## 463          Negative
## 464          Negative
## 465          Negative
## 466          Positive
## 467          Positive
## 468          Positive
## 469          Positive
## 470          Positive
## 471          Positive
## 472          Positive
## 473          Positive
## 474          Negative
## 475          Negative
## 476          Positive
## 477          Positive
## 478          Negative
## 479          Negative
## 480          Negative
## 481          Negative
## 482          Positive
## 483          Negative
## 484          Negative
## 485          Positive
## 486          Positive
## 487          Negative
## 488          Negative
## 489          Negative
## 490          Positive
## 491          Negative
## 492          Positive
## 493          Positive
## 494          Negative
## 495          Negative
## 496          Negative
## 497          Positive
## 498          Positive
## 499          Negative
## 500          Negative
## 501          Positive
## 502          Positive
## 503          Positive
## 504          Negative
## 505          Positive
## 506          Negative
## 507          Negative
## 508          Positive
## 509          Negative
```

```
## 510          Negative
## 511          Negative
## 512          Positive
## 513          Positive
## 514          Negative
## 515          Negative
## 516          Positive
## 517          Negative
## 518          Positive
## 519          Positive
## 520          Positive
## 521          Positive
## 522          Positive
## 523          Positive
## 524          Negative
## 525          Positive
## 526          Negative
## 527          Positive
## 528          Negative
## 529          Positive
## 530          Negative
## 531          Positive
## 532          Negative
## 533          Negative
## 534          Negative
## 535          Positive
## 536          Positive
## 537          Negative
## 538          Positive
## 539          Positive
## 540          Negative
## 541          Positive
## 542          Negative
## 543          Positive
## 544          Negative
## 545          Positive
## 546          Positive
## 547          Positive
## 548          Negative
## 549          Negative
## 550          Positive
## 551          Negative
## 552          Positive
## 553          Negative
## 554          Positive
## 555          Negative
## 556          Positive
## 557          Negative
## 558          Negative
## 559          Positive
## 560          Positive
## 561          Positive
## 562          Negative
## 563          Negative
## 564          Negative
## 565          Positive
```

```
## 566        Negative
## 567        Negative
## 568        Positive
## 569        Positive
## 570        Positive
## 571        Negative
## 572        Positive
## 573        Positive
## 574        Negative
## 575        Negative
## 576        Positive
## 577        Negative
## 578        Positive
## 579        Positive
## 580        Negative
## 581        Positive
## 582        Negative
## 583        Positive
## 584        Positive
## 585        Positive
## 586        Negative
## 587        Positive
## 588        Negative
## 589        Positive
## 590        Positive
## 591        Positive
## 592        Negative
## 593        Positive
## 594        Negative
## 595        Positive
## 596        Positive
## 597        Negative
## 598        Positive
## 599        Positive
## 600        Positive
## 601        Negative
## 602        Negative
## 603        Negative
## 604        Negative
## 605        Negative
## 606        Negative
## 607        Negative
## 608        Negative
## 609        Positive
## 610        Positive
## 611        Negative
## 612        Positive
## 613        Negative
## 614        Positive
## 615        Positive
## 616        Negative
## 617        Positive
## 618        Negative
## 619        Positive
## 620        Negative
## 621        Negative
```

```
## 622          Positive
## 623          Negative
## 624          Positive
## 625          Negative
## 626          Positive
## 627          Negative
## 628          Positive
## 629          Negative
## 630          Positive
## 631          Negative
## 632          Negative
## 633          Positive
## 634          Positive
## 635          Positive
## 636          Positive
## 637          Negative
## 638          Negative
## 639          Negative
## 640          Positive
## 641          Negative
## 642          Positive
## 643          Positive
## 644          Negative
## 645          Positive
## 646          Negative
## 647          Positive
## 648          Negative
## 649          Negative
## 650          Negative
## 651          Negative
## 652          Negative
## 653          Positive
## 654          Positive
## 655          Positive
## 656          Positive
## 657          Positive
## 658          Negative
## 659          Positive
## 660          Positive
## 661          Positive
## 662          Negative
## 663          Positive
## 664          Negative
## 665          Positive
## 666          Negative
## 667          Negative
## 668          Positive
## 669          Negative
## 670          Negative
## 671          Positive
## 672          Negative
## 673          Positive
## 674          Negative
## 675          Negative
## 676          Negative
## 677          Positive
```

```
## 678        Negative
## 679        Negative
## 680        Positive
## 681        Negative
## 682        Negative
## 683        Positive
## 684        Positive
## 685        Positive
## 686        Positive
## 687        Negative
## 688        Positive
## 689        Negative
## 690        Positive
## 691        Negative
## 692        Negative
## 693        Positive
## 694        Negative
## 695        Negative
## 696        Negative
## 697        Negative
## 698        Positive
## 699        Negative
## 700        Positive
## 701        Negative
## 702        Negative
## 703        Negative
## 704        Positive
## 705        Negative
## 706        Positive
## 707        Positive
## 708        Positive
## 709        Negative
## 710        Positive
## 711        Positive
## 712        Negative
## 713        Positive
## 714        Negative
## 715        Negative
## 716        Positive
## 717        Positive
## 718        Positive
## 719        Positive
## 720        Negative
## 721        Positive
## 722        Negative
## 723        Negative
## 724        Negative
## 725        Negative
## 726        Negative
## 727        Negative
## 728        Positive
## 729        Positive
## 730        Positive
## 731        Positive
## 732        Negative
## 733        Negative
```

```
## 734          Positive
## 735          Positive
## 736          Negative
## 737          Positive
## 738          Positive
## 739          Positive
## 740          Positive
## 741          Positive
## 742          Negative
## 743          Negative
## 744          Positive
## 745          Positive
## 746          Positive
## 747          Negative
## 748          Positive
## 749          Negative
## 750          Positive
## 751          Negative
## 752          Negative
## 753          Negative
## 754          Positive
## 755          Negative
## 756          Positive
## 757          Positive
## 758          Negative
## 759          Negative
## 760          Positive
## 761          Positive
## 762          Positive
## 763          Positive
## 764          Positive
## 765          Negative
## 766          Negative
## 767          Positive
## 768          Positive
## 769          Negative
## 770          Negative
## 771          Positive
## 772          Negative
## 773          Positive
## 774          Negative
## 775          Positive
## 776          Negative
## 777          Negative
## 778          Positive
## 779          Negative
## 780          Positive
## 781          Positive
## 782          Negative
## 783          Positive
## 784          Negative
## 785          Negative
## 786          Negative
## 787          Positive
## 788          Negative
## 789          Positive
```

```
## 790          Negative
## 791          Negative
## 792          Positive
## 793          Negative
## 794          Negative
## 795          Positive
## 796          Positive
## 797          Positive
## 798          Positive
## 799          Positive
## 800          Negative
## 801          Negative
## 802          Positive
## 803          Negative
## 804          Positive
## 805          Positive
## 806          Negative
## 807          Negative
## 808          Positive
## 809          Positive
## 810          Negative
## 811          Negative
## 812          Positive
## 813          Negative
## 814          Positive
## 815          Positive
## 816          Negative
## 817          Positive
## 818          Negative
## 819          Negative
## 820          Negative
## 821          Positive
## 822          Positive
## 823          Positive
## 824          Negative
## 825          Negative
## 826          Positive
## 827          Negative
## 828          Positive
## 829          Positive
## 830          Negative
## 831          Positive
## 832          Positive
## 833          Negative
## 834          Positive
## 835          Negative
## 836          Positive
## 837          Positive
## 838          Negative
## 839          Positive
## 840          Negative
## 841          Negative
## 842          Positive
## 843          Positive
## 844          Negative
## 845          Negative
```

```
## 846          Negative
## 847          Positive
## 848          Negative
## 849          Positive
## 850          Positive
## 851          Negative
## 852          Positive
## 853          Negative
## 854          Positive
## 855          Negative
## 856          Positive
## 857          Negative
## 858          Negative
## 859          Positive
## 860          Positive
## 861          Negative
## 862          Negative
## 863          Positive
## 864          Negative
## 865          Positive
## 866          Negative
## 867          Negative
## 868          Negative
## 869          Negative
## 870          Negative
## 871          Negative
## 872          Negative
## 873          Positive
## 874          Negative
## 875          Positive
## 876          Negative
## 877          Positive
## 878          Positive
## 879          Negative
## 880          Negative
## 881          Positive
## 882          Negative
## 883          Positive
## 884          Positive
## 885          Positive
## 886          Negative
## 887          Negative
## 888          Positive
## 889          Positive
## 890          Negative
## 891          Negative
## 892          Negative
## 893          Negative
## 894          Positive
## 895          Negative
## 896          Negative
## 897          Positive
## 898          Negative
## 899          Negative
## 900          Positive
## 901          Negative
```

```
## 902           Positive
## 903           Positive
## 904           Positive
## 905           Positive
## 906           Positive
## 907           Negative
## 908           Positive
## 909           Positive
## 910           Positive
## 911           Negative
## 912           Negative
## 913           Negative
## 914           Positive
## 915           Positive
## 916           Positive
## 917           Negative
## 918           Positive
## 919           Negative
## 920           Negative
## 921           Positive
## 922           Negative
## 923           Positive
## 924           Positive
## 925           Positive
## 926           Negative
## 927           Negative
## 928           Positive
## 929           Positive
## 930           Negative
## 931           Negative
## 932           Positive
## 933           Positive
## 934           Negative
## 935           Negative
## 936           Negative
## 937           Negative
## 938           Negative
## 939           Negative
## 940           Negative
## 941           Negative
## 942           Positive
## 943           Positive
## 944           Negative
## 945           Negative
## 946           Negative
## 947           Negative
## 948           Negative
## 949           Negative
## 950           Positive
## 951           Negative
## 952           Negative
## 953           Positive
## 954           Positive
## 955           Negative
## 956           Positive
## 957           Negative
```

```
## 958          Positive
## 959          Negative
## 960          Positive
## 961          Negative
## 962          Positive
## 963          Negative
## 964          Positive
## 965          Positive
## 966          Negative
## 967          Negative
## 968          Positive
## 969          Negative
## 970          Negative
## 971          Positive
## 972          Positive
## 973          Positive
## 974          Positive
## 975          Positive
## 976          Negative
## 977          Positive
## 978          Positive
## 979          Positive
## 980          Positive
## 981          Negative
## 982          Positive
## 983          Negative
## 984          Negative
## 985          Positive
## 986          Negative
## 987          Positive
## 988          Positive
## 989          Positive
## 990          Positive
## 991          Negative
## 992          Negative
## 993          Negative
## 994          Negative
## 995          Negative
## 996          Positive
## 997          Positive
## 998          Positive
## 999          Positive
## 1000         Positive
```

Question-11: Message Impact

Create a new dataframe using the mutate and arrange commands that calculates the product of the sentiment score and the length of each message. Arrange the results in descending order.

Solution:

```
# Enter code here
comm_data %>%
  mutate(product = nchar(message)*sentiment) %>%
  arrange(desc(product))
```

```
# Enter code here
comm_data %>%
  mutate(product = nchar(message)*sentiment) %>%
  arrange(desc(product))
```

```
##              date channel         sender        message sentiment      product
## 1     2023-08-16   Email    @frank_chat Hello everyone! 0.997601895 14.96402843
## 2     2023-08-14   Slack   @erin_tweets Hello everyone! 0.987832270 14.81748405
## 3     2023-08-18   Email   dave@example Hello everyone! 0.978220029 14.67330044
## 4     2023-08-17   Email   dave@example Hello everyone! 0.976894801 14.65342202
## 5     2023-08-07   Slack    carol_slack Hello everyone! 0.973429719 14.60144579
## 6     2023-08-06   Slack   dave@example Hello everyone! 0.968081689 14.52122533
## 7     2023-08-08   Slack    @frank_chat Need assistance 0.963640937 14.45461406
## 8     2023-08-09   Email   @erin_tweets Need assistance 0.953375103 14.30062655
## 9     2023-08-17 Twitter    @frank_chat Hello everyone! 0.951721462 14.27582193
## 10    2023-08-12   Email    carol_slack Need assistance 0.937844194 14.06766291
## 11    2023-08-17   Slack   @erin_tweets Hello everyone! 0.937329018 14.05993527
## 12    2023-08-13   Email    @frank_chat Need assistance 0.935812009 14.03718014
## 13    2023-08-04   Slack    @frank_chat Need assistance 0.933738099 14.00607149
## 14    2023-08-11   Slack   dave@example Need assistance 0.930096855 13.95145283
## 15    2023-08-07   Slack    @frank_chat  Exciting news! 0.993148146 13.90407405
## 16    2023-08-13   Email    carol_slack  Exciting news! 0.991050147 13.87470206
## 17    2023-08-07   Email  alice@example Hello everyone! 0.917979236 13.76968854
## 18    2023-08-07   Slack    @frank_chat Need assistance 0.914976185 13.72464278
## 19    2023-08-06 Twitter    @bob_tweets  Exciting news! 0.979591473 13.71428062
## 20    2023-08-08 Twitter   dave@example Need assistance 0.911442756 13.67164134
## 21    2023-08-06   Email   @erin_tweets Hello everyone! 0.905330024 13.57995036
## 22    2023-08-17 Twitter  alice@example  Exciting news! 0.968932204 13.56505086
## 23    2023-08-03 Twitter   dave@example Hello everyone! 0.902683333 13.54025000
## 24    2023-08-01   Email    @bob_tweets Hello everyone! 0.902623749 13.53935624
## 25    2023-08-09   Slack    carol_slack Hello everyone! 0.902016178 13.53024267
## 26    2023-08-15   Slack  alice@example Need assistance 0.899728119 13.49592178
## 27    2023-08-03   Slack   @erin_tweets Need assistance 0.896539724 13.44809587
## 28    2023-08-07 Twitter    carol_slack Need assistance 0.895823483 13.43735224
## 29    2023-08-17 Twitter    @bob_tweets  Exciting news! 0.953910344 13.35474482
## 30    2023-08-13   Slack    carol_slack Need assistance 0.886342321 13.29513481
## 31    2023-08-11   Slack   dave@example Hello everyone! 0.879992486 13.19988729
## 32    2023-08-07   Slack  alice@example Need assistance 0.877496709 13.16245064
## 33    2023-08-20   Email    @bob_tweets  Exciting news! 0.931368547 13.03915965
## 34    2023-08-14   Email   @erin_tweets Need assistance 0.867801995 13.01702993
## 35    2023-08-12   Email   @erin_tweets Need assistance 0.866607873 12.99911810
## 36    2023-08-16 Twitter  alice@example  Exciting news! 0.927110374 12.97954523
## 37    2023-08-19 Twitter  alice@example Hello everyone! 0.857508211 12.86262316
## 38    2023-08-02   Slack   @erin_tweets  Exciting news! 0.900116188 12.60162663
## 39    2023-08-10   Email   dave@example Need assistance 0.834841503 12.52262254
## 40    2023-08-02 Twitter   @erin_tweets Need assistance 0.821079701 12.31619552
## 41    2023-08-12 Twitter  alice@example  Exciting news! 0.874988238 12.24983533
## 42    2023-08-10 Twitter    carol_slack Need assistance 0.809991531 12.14987296
## 43    2023-08-11 Twitter    @frank_chat Hello everyone! 0.807257727 12.10886591
## 44    2023-08-16 Twitter   @erin_tweets Hello everyone! 0.806540163 12.09810244
## 45    2023-08-02   Slack    carol_slack Hello everyone! 0.805289558 12.07934337
## 46    2023-08-01   Slack    carol_slack Hello everyone! 0.802523659 12.03785488
## 47    2023-08-03   Email    @frank_chat    Fun weekend! 0.992682932 11.91219518
## 48    2023-08-12   Slack    @bob_tweets    Fun weekend! 0.990166281 11.88199537
## 49    2023-08-13 Twitter   dave@example    Fun weekend! 0.986894567 11.84273481
## 50    2023-08-20   Email   dave@example    Team meeting 0.985037738 11.82045285
## 51    2023-08-15 Twitter   @erin_tweets Need assistance 0.787741330 11.81611995
## 52    2023-08-18 Twitter  alice@example    Fun weekend! 0.977650215 11.73180258
## 53    2023-08-15   Email   dave@example Need assistance 0.773382573 11.60073860
## 54    2023-08-02 Twitter  alice@example    Team meeting 0.964958043 11.57949651
```

```
## 55   2023-08-15 Twitter   @erin_tweets Hello everyone!  0.768580468  11.52870702
## 56   2023-08-19   Email    dave@example  Exciting news!  0.821827833  11.50558966
## 57   2023-08-10   Slack     @bob_tweets    Fun weekend!  0.957983019  11.49579623
## 58   2023-08-09 Twitter alice@example Hello everyone!  0.762754925  11.44132388
## 59   2023-08-02 Twitter   dave@example  Exciting news!  0.817105632  11.43947885
## 60   2023-08-19 Twitter   @erin_tweets    Team meeting  0.945942261  11.35130714
## 61   2023-08-13 Twitter alice@example Hello everyone!  0.752351641  11.28527462
## 62   2023-08-07   Slack   dave@example Hello everyone!  0.747580624  11.21370936
## 63   2023-08-03 Twitter alice@example Need assistance  0.747163485  11.20745228
## 64   2023-08-06   Slack    @frank_chat Need assistance  0.746888391  11.20332586
## 65   2023-08-17   Email    @frank_chat    Team meeting  0.932789830  11.19347795
## 66   2023-08-06   Slack     @bob_tweets Need assistance  0.743181323  11.14771985
## 67   2023-08-04 Twitter    @frank_chat  Exciting news!  0.795437461  11.13612446
## 68   2023-08-08   Slack     @bob_tweets Hello everyone!  0.740663246  11.10994869
## 69   2023-08-03   Email   @erin_tweets    Fun weekend!  0.924321534  11.09185841
## 70   2023-08-14 Twitter   carol_slack Need assistance  0.739025190  11.08537785
## 71   2023-08-11   Slack    carol_slack    Team meeting  0.921573296  11.05887955
## 72   2023-08-07   Email    carol_slack  Exciting news!  0.785684678  10.99958549
## 73   2023-08-18 Twitter    @frank_chat  Exciting news!  0.784590872  10.98427221
## 74   2023-08-20   Email    carol_slack    Team meeting  0.909817838  10.91781405
## 75   2023-08-12   Email    @frank_chat  Exciting news!  0.777389107  10.88344750
## 76   2023-08-05   Email    @bob_tweets Hello everyone!  0.725036937  10.87555406
## 77   2023-08-07   Email alice@example  Exciting news!  0.773558143  10.82981400
## 78   2023-08-13 Twitter   carol_slack  Exciting news!  0.771407587  10.79970622
## 79   2023-08-10   Slack    @frank_chat  Exciting news!  0.769946682  10.77925355
## 80   2023-08-09   Email alice@example    Fun weekend!  0.893210486  10.71852583
## 81   2023-08-19   Email    carol_slack    Fun weekend!  0.892766985  10.71320382
## 82   2023-08-02   Email   dave@example     Great work!  0.973676749  10.71044424
## 83   2023-08-13 Twitter alice@example    Team meeting  0.892404643  10.70885571
## 84   2023-08-03   Email alice@example Hello everyone!  0.713812393  10.70718590
## 85   2023-08-06   Slack alice@example Hello everyone!  0.710270591  10.65405886
## 86   2023-08-15   Slack    @frank_chat     Great work!  0.960373470  10.56410817
## 87   2023-08-14 Twitter    @bob_tweets  Exciting news!  0.754322437  10.56051412
## 88   2023-08-09   Email    @bob_tweets Hello everyone!  0.703965933  10.55948899
## 89   2023-08-02 Twitter   @erin_tweets  Exciting news!  0.750492542  10.50689559
## 90   2023-08-11   Email    @frank_chat    Fun weekend!  0.874191639  10.49029966
## 91   2023-08-08 Twitter alice@example    Team meeting  0.870818266  10.44981919
## 92   2023-08-05   Email alice@example Need assistance  0.694902051  10.42353076
## 93   2023-08-18 Twitter    @bob_tweets    Fun weekend!  0.866654206  10.39985047
## 94   2023-08-04   Slack    @bob_tweets    Fun weekend!  0.866016825  10.39220190
## 95   2023-08-04   Slack    @frank_chat Need assistance  0.691338675  10.37008012
## 96   2023-08-17   Email   @erin_tweets    Team meeting  0.863822790  10.36587348
## 97   2023-08-10   Slack   @erin_tweets    Team meeting  0.862134462  10.34561354
## 98   2023-08-04   Email   @erin_tweets Need assistance  0.689327837  10.33991755
## 99   2023-08-07   Slack    carol_slack     Great work!  0.937586371  10.31345008
## 100  2023-08-16   Email alice@example    Team meeting  0.858062949  10.29675539
## 101  2023-08-19   Email    @bob_tweets    Team meeting  0.855612874  10.26735449
## 102  2023-08-15 Twitter    @bob_tweets    Team meeting  0.853966497  10.24759796
## 103  2023-08-20   Email alice@example    Fun weekend!  0.851679420  10.22015304
## 104  2023-08-08   Slack   @erin_tweets    Team meeting  0.849549761  10.19459713
## 105  2023-08-19   Slack    @bob_tweets Hello everyone!  0.679174718  10.18762078
## 106  2023-08-10   Email    @bob_tweets     Great work!  0.924440826  10.16884909
## 107  2023-08-01 Twitter alice@example Need assistance  0.676776995  10.15165492
## 108  2023-08-07   Slack alice@example    Fun weekend!  0.844455994  10.13347192
## 109  2023-08-13   Slack   carol_slack Hello everyone!  0.675182751  10.12774126
## 110  2023-08-08   Email alice@example  Exciting news!  0.723251828  10.12552560
```

```
## 111 2023-08-15   Slack   carol_slack Need assistance 0.674294885 10.11442328
## 112 2023-08-05 Twitter alice@example   Exciting news! 0.722319741 10.11247638
## 113 2023-08-10   Slack   @frank_chat Hello everyone! 0.672468295 10.08702442
## 114 2023-08-02   Email   dave@example   Exciting news! 0.717076284 10.03906798
## 115 2023-08-16   Slack alice@example Need assistance 0.669039086 10.03558630
## 116 2023-08-11 Twitter   carol_slack     Great work! 0.910158344 10.01174178
## 117 2023-08-09   Slack alice@example Need assistance 0.665302936  9.97954403
## 118 2023-08-06   Email   @erin_tweets Need assistance 0.664381829  9.96572744
## 119 2023-08-11   Email   @bob_tweets Hello everyone! 0.662486946  9.93730419
## 120 2023-08-09   Slack dave@example Need assistance 0.662048494  9.93072742
## 121 2023-08-17   Email   @bob_tweets   Fun weekend! 0.825692308  9.90830769
## 122 2023-08-05 Twitter alice@example   Team meeting 0.824948560  9.89938273
## 123 2023-08-11 Twitter dave@example   Fun weekend! 0.824099663  9.88919596
## 124 2023-08-02   Slack alice@example   Fun weekend! 0.823352248  9.88022698
## 125 2023-08-06   Email   @frank_chat   Team meeting 0.819675826  9.83610992
## 126 2023-08-18 Twitter   @frank_chat   Team meeting 0.818109252  9.81731103
## 127 2023-08-14   Email   @erin_tweets     Great work! 0.891589128  9.80748041
## 128 2023-08-15   Slack   @frank_chat   Fun weekend! 0.816346027  9.79615233
## 129 2023-08-16 Twitter alice@example   Exciting news! 0.696509592  9.75113428
## 130 2023-08-06   Email   @frank_chat   Exciting news! 0.696377364  9.74928310
## 131 2023-08-09 Twitter   @frank_chat Hello everyone! 0.649366590  9.74049885
## 132 2023-08-03   Slack   @bob_tweets     Great work! 0.884830707  9.73313778
## 133 2023-08-12   Slack   carol_slack     Great work! 0.874556832  9.62012515
## 134 2023-08-20 Twitter   carol_slack Hello everyone! 0.640248996  9.60373494
## 135 2023-08-07   Slack   @bob_tweets     Great work! 0.872962321  9.60258553
## 136 2023-08-20   Slack alice@example   Exciting news! 0.685212519  9.59297527
## 137 2023-08-16 Twitter dave@example   Team meeting 0.796688539  9.56026246
## 138 2023-08-04   Slack dave@example   Fun weekend! 0.796501584  9.55801901
## 139 2023-08-14 Twitter dave@example     Great work! 0.866824818  9.53507300
## 140 2023-08-10   Email   @erin_tweets   Exciting news! 0.679597112  9.51435957
## 141 2023-08-06   Email   @frank_chat   Fun weekend! 0.791513952  9.49816742
## 142 2023-08-14 Twitter   @bob_tweets   Exciting news! 0.671785708  9.40499991
## 143 2023-08-01   Email   @bob_tweets   Team meeting 0.783531986  9.40238383
## 144 2023-08-10   Slack   @frank_chat Need assistance 0.626154714  9.39232071
## 145 2023-08-05 Twitter dave@example   Team meeting 0.779166287  9.34999544
## 146 2023-08-08   Email   @frank_chat   Team meeting 0.778342899  9.34011479
## 147 2023-08-10   Email   @bob_tweets   Exciting news! 0.664575256  9.30405358
## 148 2023-08-17 Twitter dave@example   Fun weekend! 0.775130778  9.30156934
## 149 2023-08-12   Email alice@example   Team meeting 0.774573303  9.29487963
## 150 2023-08-05   Email   @bob_tweets Hello everyone! 0.616259416  9.24389124
## 151 2023-08-05   Email   @erin_tweets     Great work! 0.830162693  9.13178963
## 152 2023-08-16 Twitter dave@example     Great work! 0.827052074  9.09757282
## 153 2023-08-01   Email   carol_slack   Fun weekend! 0.757286296  9.08743555
## 154 2023-08-14   Slack   @erin_tweets Hello everyone! 0.605556316  9.08334474
## 155 2023-08-01   Slack   @frank_chat Need assistance 0.601800072  9.02700109
## 156 2023-08-05 Twitter   @frank_chat Hello everyone! 0.599585856  8.99378784
## 157 2023-08-15 Twitter   @erin_tweets Need assistance 0.599532404  8.99298607
## 158 2023-08-01 Twitter   @frank_chat Need assistance 0.599045397  8.98568095
## 159 2023-08-20   Slack dave@example     Great work! 0.814900840  8.96390924
## 160 2023-08-09   Email dave@example   Team meeting 0.746085706  8.95302847
## 161 2023-08-13   Email alice@example Need assistance 0.596431601  8.94647402
## 162 2023-08-19 Twitter   @erin_tweets   Exciting news! 0.638825124  8.94355174
## 163 2023-08-07   Slack dave@example Hello everyone! 0.593321668  8.89982501
## 164 2023-08-08   Slack   @erin_tweets Need assistance 0.593302410  8.89953615
## 165 2023-08-07 Twitter   carol_slack     Great work! 0.805481421  8.86029563
## 166 2023-08-10   Slack alice@example     Great work! 0.804542714  8.84996985
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## 167  2023-08-08    Email   @erin_tweets    Fun weekend! 0.734125260  8.80950312
## 168  2023-08-15  Twitter alice@example      Great work! 0.798867194  8.78753914
## 169  2023-08-03    Email    @frank_chat Hello everyone! 0.583445542  8.75168314
## 170  2023-08-17  Twitter alice@example Hello everyone! 0.582868762  8.74303143
## 171  2023-08-20    Slack   dave@example   Exciting news! 0.617734990  8.64828986
## 172  2023-08-11    Email    @bob_tweets Hello everyone! 0.576369455  8.64554183
## 173  2023-08-03    Email   dave@example Hello everyone! 0.575844854  8.63767281
## 174  2023-08-08  Twitter   carol_slack   Exciting news! 0.614791796  8.60708514
## 175  2023-08-11  Twitter   carol_slack      Great work! 0.782265475  8.60492022
## 176  2023-08-06    Slack    carol_slack Need assistance 0.572155187  8.58232781
## 177  2023-08-05  Twitter   carol_slack    Fun weekend! 0.706561523  8.47873828
## 178  2023-08-09  Twitter    @bob_tweets  Exciting news! 0.605349668  8.47489536
## 179  2023-08-12  Twitter   carol_slack    Team meeting 0.704733795  8.45680553
## 180  2023-08-06    Email   carol_slack      Great work! 0.766328182  8.42961000
## 181  2023-08-05    Email    carol_slack Need assistance 0.558824511  8.38236766
## 182  2023-08-09    Email   dave@example    Fun weekend! 0.698494015  8.38192818
## 183  2023-08-14    Email   carol_slack   Exciting news! 0.596924395  8.35694153
## 184  2023-08-09    Slack alice@example    Fun weekend! 0.690391378  8.28469654
## 185  2023-08-03    Slack    @frank_chat  Exciting news! 0.591279314  8.27791040
## 186  2023-08-10    Slack   dave@example      Great work! 0.746216161  8.20837777
## 187  2023-08-12    Email    @frank_chat Need assistance 0.544408341  8.16612512
## 188  2023-08-02  Twitter  @erin_tweets   Exciting news! 0.581556937  8.14179712
## 189  2023-08-08    Email   carol_slack    Fun weekend! 0.670605208  8.04726249
## 190  2023-08-10    Email    @frank_chat Hello everyone! 0.535708998  8.03563497
## 191  2023-08-04    Slack alice@example Need assistance 0.534302738  8.01454106
## 192  2023-08-12  Twitter alice@example Hello everyone! 0.532433989  7.98650983
## 193  2023-08-01  Twitter  dave@example Hello everyone! 0.530999278  7.96498917
## 194  2023-08-03  Twitter alice@example Hello everyone! 0.530733542  7.96100313
## 195  2023-08-05    Email    @frank_chat  Exciting news! 0.567230823  7.94123152
## 196  2023-08-16    Slack    carol_slack Hello everyone! 0.529127310  7.93690964
## 197  2023-08-20  Twitter   @frank_chat    Team meeting 0.659773430  7.91728116
## 198  2023-08-12    Slack   dave@example  Exciting news! 0.563268560  7.88575985
## 199  2023-08-01  Twitter  @erin_tweets Hello everyone! 0.524320859  7.86481288
## 200  2023-08-08    Email   carol_slack      Great work! 0.710615378  7.81676916
## 201  2023-08-20    Slack    @bob_tweets Hello everyone! 0.520647362  7.80971044
## 202  2023-08-12    Email   dave@example    Fun weekend! 0.650773503  7.80928203
## 203  2023-08-17    Email   @erin_tweets      Great work! 0.709753431  7.80728775
## 204  2023-08-12  Twitter  @erin_tweets    Team meeting 0.650313874  7.80376649
## 205  2023-08-05    Slack   @erin_tweets Need assistance 0.519475343  7.79213014
## 206  2023-08-13    Email    @bob_tweets  Exciting news! 0.553149406  7.74409168
## 207  2023-08-05    Email   @erin_tweets  Exciting news! 0.549038415  7.68653781
## 208  2023-08-10    Email alice@example      Great work! 0.693037350  7.62341085
## 209  2023-08-11  Twitter   @frank_chat    Team meeting 0.629940747  7.55928896
## 210  2023-08-20    Email   carol_slack      Great work! 0.680826971  7.48909668
## 211  2023-08-14    Email    @bob_tweets Hello everyone! 0.498191035  7.47286552
## 212  2023-08-10    Slack   dave@example  Exciting news! 0.532747218  7.45846105
## 213  2023-08-03    Slack    @bob_tweets Need assistance 0.496275815  7.44413722
## 214  2023-08-03    Slack   dave@example      Great work! 0.675534202  7.43087622
## 215  2023-08-05  Twitter  @erin_tweets    Fun weekend! 0.619198539  7.43038247
## 216  2023-08-20    Email   dave@example    Team meeting 0.617879979  7.41455975
## 217  2023-08-08    Email alice@example   Exciting news! 0.529548995  7.41368593
## 218  2023-08-06    Email   dave@example Need assistance 0.492307736  7.38461604
## 219  2023-08-14    Slack   dave@example Hello everyone! 0.491653796  7.37480694
## 220  2023-08-05    Email    @frank_chat    Team meeting 0.611721705  7.34066046
## 221  2023-08-03    Email    @frank_chat Hello everyone! 0.488557915  7.32836872
## 222  2023-08-19    Slack    @bob_tweets Hello everyone! 0.487545231  7.31317846
```

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## 223   2023-08-12   Slack    carol_slack    Fun weekend!  0.608656868   7.30388241
## 224   2023-08-16   Slack   dave@example  Need assistance  0.484403751   7.26605626
## 225   2023-08-20   Slack    @erin_tweets   Fun weekend!  0.604609676   7.25531611
## 226   2023-08-20  Twitter  alice@example  Hello everyone!  0.482187657   7.23281485
## 227   2023-08-19  Twitter    @frank_chat  Need assistance  0.481529109   7.22293664
## 228   2023-08-17   Slack   alice@example    Great work!  0.652192219   7.17411441
## 229   2023-08-03  Twitter    carol_slack    Great work!  0.646422371   7.11064608
## 230   2023-08-18  Twitter    @bob_tweets    Fun weekend!  0.590919483   7.09103379
## 231   2023-08-07   Email     @bob_tweets    Great work!  0.642848774   7.07133651
## 232   2023-08-19   Slack   alice@example  Exciting news!  0.502961815   7.04146541
## 233   2023-08-12  Twitter  alice@example   Team meeting  0.582250814   6.98700977
## 234   2023-08-18   Email     @bob_tweets  Exciting news!  0.497974098   6.97163737
## 235   2023-08-19  Twitter    carol_slack    Team meeting  0.578111817   6.93734181
## 236   2023-08-07   Slack   alice@example    Team meeting  0.569526526   6.83431831
## 237   2023-08-12   Slack   alice@example  Need assistance  0.454688824   6.82033236
## 238   2023-08-14  Twitter    @bob_tweets    Fun weekend!  0.567614020   6.81136824
## 239   2023-08-18   Slack     @bob_tweets    Fun weekend!  0.567603516   6.81124220
## 240   2023-08-18   Email     @bob_tweets  Need assistance  0.453627230   6.80440845
## 241   2023-08-02  Twitter    carol_slack  Hello everyone!  0.450987421   6.76481131
## 242   2023-08-14   Slack     @bob_tweets  Hello everyone!  0.450289166   6.75433748
## 243   2023-08-20   Email     @frank_chat    Team meeting  0.560076173   6.72091408
## 244   2023-08-16   Slack   alice@example  Need assistance  0.445466304   6.68199456
## 245   2023-08-20   Slack     @frank_chat    Great work!  0.606102686   6.66712955
## 246   2023-08-01   Email     carol_slack    Great work!  0.605523043   6.66075348
## 247   2023-08-13   Slack     carol_slack  Exciting news!  0.474910577   6.64874808
## 248   2023-08-05   Email     carol_slack  Exciting news!  0.468174768   6.55444675
## 249   2023-08-07  Twitter   dave@example  Exciting news!  0.466239469   6.52735257
## 250   2023-08-09   Slack    @erin_tweets   Fun weekend!  0.542777083   6.51332500
## 251   2023-08-13   Email   alice@example  Hello everyone!  0.433930994   6.50896490
## 252   2023-08-03   Slack   alice@example   Fun weekend!  0.542070733   6.50484880
## 253   2023-08-16   Slack   dave@example  Exciting news!  0.461496073   6.46094502
## 254   2023-08-15   Email     @frank_chat    Fun weekend!  0.535877908   6.43053489
## 255   2023-08-07   Slack   alice@example    Great work!  0.580541194   6.38595314
## 256   2023-08-09  Twitter    @bob_tweets    Team meeting  0.526457346   6.31748815
## 257   2023-08-19  Twitter    @bob_tweets  Hello everyone!  0.420571170   6.30856755
## 258   2023-08-09   Slack    @erin_tweets   Fun weekend!  0.525517232   6.30620678
## 259   2023-08-19   Email    @erin_tweets    Great work!  0.570171806   6.27188987
## 260   2023-08-12   Slack     @frank_chat   Fun weekend!  0.519153008   6.22983610
## 261   2023-08-15   Email     carol_slack  Need assistance  0.414960733   6.22441100
## 262   2023-08-13   Slack     @frank_chat  Exciting news!  0.443950114   6.21530160
## 263   2023-08-08  Twitter    @bob_tweets    Great work!  0.564973874   6.21471261
## 264   2023-08-09   Email    @erin_tweets   Fun weekend!  0.513564137   6.16276965
## 265   2023-08-13  Twitter    @bob_tweets  Need assistance  0.408644735   6.12967103
## 266   2023-08-08  Twitter  alice@example    Great work!  0.552484959   6.07733455
## 267   2023-08-13   Email   dave@example    Great work!  0.550955762   6.06051338
## 268   2023-08-12   Slack     carol_slack    Team meeting  0.504667453   6.05600943
## 269   2023-08-03  Twitter    @bob_tweets  Hello everyone!  0.401231622   6.01847433
## 270   2023-08-09   Slack     @bob_tweets    Team meeting  0.500293179   6.00351815
## 271   2023-08-14  Twitter    @frank_chat    Team meeting  0.499737595   5.99685114
## 272   2023-08-05  Twitter   dave@example    Great work!  0.544805384   5.99285923
## 273   2023-08-20  Twitter    carol_slack    Great work!  0.544291852   5.98721037
## 274   2023-08-15  Twitter    carol_slack    Team meeting  0.498292263   5.97950716
## 275   2023-08-13   Email    @erin_tweets   Fun weekend!  0.496487776   5.95785331
## 276   2023-08-01  Twitter   @erin_tweets  Exciting news!  0.423581860   5.93014603
## 277   2023-08-15   Slack     @bob_tweets  Exciting news!  0.423514269   5.92919976
## 278   2023-08-14   Slack    dave@example    Great work!  0.538406652   5.92247317
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## 279 2023-08-18    Email alice@example  Exciting news! 0.422912350 5.92077291
## 280 2023-08-10    Email    @frank_chat    Great work! 0.533465849 5.86812434
## 281 2023-08-08  Twitter    @frank_chat   Fun weekend! 0.484796492 5.81755790
## 282 2023-08-14  Twitter alice@example  Exciting news! 0.415267176 5.81374047
## 283 2023-08-15    Email    @frank_chat Need assistance 0.385732211 5.78598316
## 284 2023-08-15  Twitter    @frank_chat Hello everyone! 0.384222084 5.76333126
## 285 2023-08-19  Twitter    @bob_tweets    Great work! 0.521462946 5.73609240
## 286 2023-08-14  Twitter dave@example   Fun weekend! 0.474564350 5.69477220
## 287 2023-08-02  Twitter dave@example    Great work! 0.516138048 5.67751853
## 288 2023-08-13  Twitter   @erin_tweets   Great work! 0.515643027 5.67207329
## 289 2023-08-15  Twitter dave@example   Fun weekend! 0.469535301 5.63442361
## 290 2023-08-19    Email alice@example  Exciting news! 0.401543677 5.62161148
## 291 2023-08-11    Email dave@example    Great work! 0.509797142 5.60776857
## 292 2023-08-15  Twitter   @bob_tweets Need assistance 0.373691486 5.60537229
## 293 2023-08-04  Twitter dave@example   Fun weekend! 0.463157478 5.55788974
## 294 2023-08-03    Slack    @frank_chat Hello everyone! 0.368215033 5.52322549
## 295 2023-08-15    Slack   @erin_tweets   Team meeting 0.457860831 5.49432997
## 296 2023-08-19  Twitter    @frank_chat Exciting news! 0.388266448 5.43573027
## 297 2023-08-05    Email    carol_slack   Fun weekend! 0.451752027 5.42102432
## 298 2023-08-14    Email    carol_slack   Fun weekend! 0.446355308 5.35626370
## 299 2023-08-13    Slack alice@example    Great work! 0.480868685 5.28955554
## 300 2023-08-12    Email dave@example    Great work! 0.480317921 5.28349713
## 301 2023-08-16    Slack dave@example   Fun weekend! 0.438361928 5.26034314
## 302 2023-08-01  Twitter    @frank_chat    Great work! 0.473425272 5.20767800
## 303 2023-08-07    Slack    @bob_tweets Exciting news! 0.370947586 5.19326621
## 304 2023-08-09    Slack    carol_slack Hello everyone! 0.346090994 5.19136491
## 305 2023-08-05    Slack    carol_slack    Great work! 0.470731148 5.17804263
## 306 2023-08-15  Twitter    @frank_chat Need assistance 0.344264537 5.16396806
## 307 2023-08-16    Email    @frank_chat Need assistance 0.343977793 5.15966690
## 308 2023-08-14  Twitter   @erin_tweets   Great work! 0.468599080 5.15458988
## 309 2023-08-13  Twitter    @frank_chat Exciting news! 0.368110256 5.15354359
## 310 2023-08-15    Email    @bob_tweets    Great work! 0.468266435 5.15093079
## 311 2023-08-02    Slack    @bob_tweets Exciting news! 0.365244868 5.11342815
## 312 2023-08-10    Slack alice@example   Team meeting 0.425960287 5.11152345
## 313 2023-08-19    Email    @frank_chat    Great work! 0.463513046 5.09864350
## 314 2023-08-13    Slack    carol_slack    Great work! 0.460303653 5.06334018
## 315 2023-08-17    Email dave@example   Fun weekend! 0.420022254 5.04026705
## 316 2023-08-04    Email    @bob_tweets   Fun weekend! 0.419715998 5.03659197
## 317 2023-08-13    Email   @erin_tweets   Fun weekend! 0.418006041 5.01607249
## 318 2023-08-14    Email    @bob_tweets Need assistance 0.330107941 4.95161911
## 319 2023-08-01    Slack alice@example  Exciting news! 0.350437745 4.90612843
## 320 2023-08-18    Slack    @bob_tweets   Team meeting 0.403409261 4.84091114
## 321 2023-08-16    Email    @frank_chat   Fun weekend! 0.402509230 4.83011076
## 322 2023-08-15  Twitter dave@example    Great work! 0.435108419 4.78619261
## 323 2023-08-07    Slack alice@example   Fun weekend! 0.397376804 4.76852165
## 324 2023-08-09  Twitter alice@example    Great work! 0.432502551 4.75752807
## 325 2023-08-11    Slack    @frank_chat    Great work! 0.431652104 4.74817314
## 326 2023-08-06  Twitter    carol_slack   Fun weekend! 0.394200163 4.73040196
## 327 2023-08-14    Slack   @erin_tweets Exciting news! 0.336964048 4.71749668
## 328 2023-08-07    Email    @frank_chat   Fun weekend! 0.387379609 4.64855530
## 329 2023-08-10  Twitter   @erin_tweets   Team meeting 0.384202328 4.61042793
## 330 2023-08-18    Email    @frank_chat   Fun weekend! 0.380196611 4.56235933
## 331 2023-08-08    Email   @erin_tweets   Fun weekend! 0.378708432 4.54450119
## 332 2023-08-19    Email dave@example  Exciting news! 0.324592507 4.54429509
## 333 2023-08-05    Email    carol_slack Need assistance 0.300882405 4.51323607
## 334 2023-08-17  Twitter   @erin_tweets Hello everyone! 0.299843722 4.49765583
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## 335   2023-08-16    Slack alice@example  Exciting news!  0.320830711  4.49162996
## 336   2023-08-12   Twitter   @erin_tweets Need assistance  0.298994374  4.48491562
## 337   2023-08-12   Twitter    carol_slack     Great work!  0.407506729  4.48257402
## 338   2023-08-01   Twitter    carol_slack     Great work!  0.406890230  4.47579253
## 339   2023-08-17   Twitter    @bob_tweets     Great work!  0.401612313  4.41773544
## 340   2023-08-05   Twitter    carol_slack    Team meeting  0.364639959  4.37567951
## 341   2023-08-05    Slack    @bob_tweets Need assistance  0.291605130  4.37407695
## 342   2023-08-20   Twitter alice@example  Exciting news!  0.310656996  4.34919794
## 343   2023-08-04    Email alice@example  Exciting news!  0.308247630  4.31546681
## 344   2023-08-20   Twitter    @frank_chat  Exciting news!  0.307898677  4.31058148
## 345   2023-08-16    Email    @frank_chat  Exciting news!  0.305391626  4.27548276
## 346   2023-08-11    Email    carol_slack    Fun weekend!  0.355941510  4.27129812
## 347   2023-08-18    Slack   @erin_tweets    Team meeting  0.353438236  4.24125884
## 348   2023-08-15    Email   dave@example Hello everyone!  0.282330315  4.23495473
## 349   2023-08-12    Email alice@example     Great work!  0.383860287  4.22246316
## 350   2023-08-10    Slack    @bob_tweets Need assistance  0.279333149  4.18999723
## 351   2023-08-12   Twitter   dave@example Hello everyone!  0.278570379  4.17855568
## 352   2023-08-05    Email alice@example    Fun weekend!  0.347548683  4.17058419
## 353   2023-08-10   Twitter    @bob_tweets    Fun weekend!  0.346377916  4.15653499
## 354   2023-08-15   Twitter   dave@example    Fun weekend!  0.345517721  4.14621265
## 355   2023-08-18    Email alice@example Need assistance  0.275121063  4.12681595
## 356   2023-08-18    Email    carol_slack    Team meeting  0.343653605  4.12384326
## 357   2023-08-20   Twitter   @erin_tweets    Team meeting  0.341763970  4.10116764
## 358   2023-08-18   Twitter    @bob_tweets  Exciting news!  0.290797958  4.07117141
## 359   2023-08-08    Email    @frank_chat     Great work!  0.362224979  3.98447477
## 360   2023-08-16    Email alice@example     Great work!  0.360768258  3.96845084
## 361   2023-08-13    Email    @bob_tweets Hello everyone!  0.264306294  3.96459441
## 362   2023-08-07    Email   dave@example    Team meeting  0.327507946  3.93009535
## 363   2023-08-10   Twitter   @erin_tweets  Exciting news!  0.275836162  3.86170627
## 364   2023-08-14   Twitter alice@example     Great work!  0.346799491  3.81479440
## 365   2023-08-19   Twitter    carol_slack    Team meeting  0.317846402  3.81415682
## 366   2023-08-07    Slack    @bob_tweets Need assistance  0.251102221  3.76653332
## 367   2023-08-14   Twitter    @bob_tweets Hello everyone!  0.250149151  3.75223726
## 368   2023-08-03    Email alice@example    Fun weekend!  0.312383833  3.74860600
## 369   2023-08-11    Slack    @frank_chat    Fun weekend!  0.312006338  3.74407606
## 370   2023-08-03    Email    carol_slack Need assistance  0.247236022  3.70854033
## 371   2023-08-14    Email   dave@example    Fun weekend!  0.304697359  3.65636831
## 372   2023-08-11   Twitter    @bob_tweets  Exciting news!  0.260118117  3.64165363
## 373   2023-08-11    Slack    @frank_chat Need assistance  0.235724795  3.53587192
## 374   2023-08-07    Email    @bob_tweets  Exciting news!  0.244900235  3.42860330
## 375   2023-08-16    Email    carol_slack     Great work!  0.306993762  3.37693138
## 376   2023-08-20   Twitter alice@example    Fun weekend!  0.280627117  3.36752540
## 377   2023-08-08   Twitter alice@example Hello everyone!  0.223401716  3.35102573
## 378   2023-08-19    Email alice@example     Great work!  0.301563812  3.31720194
## 379   2023-08-15    Slack alice@example    Fun weekend!  0.271711212  3.26053455
## 380   2023-08-02   Twitter    carol_slack Need assistance  0.215954025  3.23931037
## 381   2023-08-16    Slack    @frank_chat    Fun weekend!  0.269629325  3.23555190
## 382   2023-08-09    Slack   @erin_tweets    Team meeting  0.268132484  3.21758980
## 383   2023-08-12   Twitter    @bob_tweets    Team meeting  0.265132846  3.18159415
## 384   2023-08-18   Twitter    carol_slack  Exciting news!  0.222249684  3.11149558
## 385   2023-08-10   Twitter   @erin_tweets     Great work!  0.282790715  3.11069786
## 386   2023-08-19   Twitter    @frank_chat  Exciting news!  0.221380584  3.09932818
## 387   2023-08-20    Slack    carol_slack  Exciting news!  0.221250645  3.09750903
## 388   2023-08-12    Email alice@example    Team meeting  0.255163795  3.06196554
## 389   2023-08-10    Email    @bob_tweets    Team meeting  0.253805156  3.04566188
## 390   2023-08-10   Twitter    carol_slack     Great work!  0.268422757  2.95265032
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## 391  2023-08-10 Twitter alice@example    Great work! 0.266619468 2.93281415
## 392  2023-08-05    Email   @bob_tweets   Team meeting 0.243233590 2.91880308
## 393  2023-08-04    Email    @frank_chat    Great work! 0.263225980 2.89548578
## 394  2023-08-09    Email  @erin_tweets    Fun weekend! 0.237909144 2.85490973
## 395  2023-08-20 Twitter    @bob_tweets    Fun weekend! 0.236553716 2.83864459
## 396  2023-08-04    Email   carol_slack Need assistance 0.188933107 2.83399661
## 397  2023-08-14    Slack    @frank_chat Need assistance 0.187954018 2.81931028
## 398  2023-08-18    Email  alice@example   Fun weekend! 0.233402089 2.80082507
## 399  2023-08-08 Twitter   carol_slack    Fun weekend! 0.232626481 2.79151777
## 400  2023-08-20    Slack   carol_slack    Fun weekend! 0.231915887 2.78299064
## 401  2023-08-09 Twitter alice@example Hello everyone! 0.184942272 2.77413409
## 402  2023-08-09    Slack  dave@example    Fun weekend! 0.229193896 2.75032675
## 403  2023-08-12 Twitter    @bob_tweets    Fun weekend! 0.226440192 2.71728230
## 404  2023-08-12    Slack alice@example    Fun weekend! 0.226010282 2.71212338
## 405  2023-08-05 Twitter  dave@example     Great work! 0.245927144 2.70519859
## 406  2023-08-19    Email    @frank_chat Hello everyone! 0.179850068 2.69775102
## 407  2023-08-01    Slack  @erin_tweets    Great work! 0.244422906 2.68865196
## 408  2023-08-07    Slack   carol_slack  Exciting news! 0.186763622 2.61469071
## 409  2023-08-02 Twitter   carol_slack Hello everyone! 0.173851238 2.60776856
## 410  2023-08-18    Email  @erin_tweets Need assistance 0.171319252 2.56978878
## 411  2023-08-08    Email   carol_slack   Team meeting 0.213498762 2.56198514
## 412  2023-08-02 Twitter alice@example    Team meeting 0.210089974 2.52107969
## 413  2023-08-04    Slack    @frank_chat Need assistance 0.165087673 2.47631510
## 414  2023-08-08    Email  alice@example    Great work! 0.222402995 2.44643294
## 415  2023-08-01    Email  @erin_tweets   Fun weekend! 0.203746784 2.44496141
## 416  2023-08-04    Email  alice@example Hello everyone! 0.161035733 2.41553600
## 417  2023-08-06    Email   @bob_tweets   Fun weekend! 0.201027735 2.41233282
## 418  2023-08-02 Twitter alice@example Need assistance 0.157653404 2.36480107
## 419  2023-08-10 Twitter    @frank_chat    Great work! 0.214199054 2.35618959
## 420  2023-08-18    Slack   @bob_tweets   Team meeting 0.192284770 2.30741724
## 421  2023-08-07    Email    @frank_chat   Team meeting 0.192018484 2.30422181
## 422  2023-08-08 Twitter  @erin_tweets   Fun weekend! 0.191519982 2.29823979
## 423  2023-08-07    Slack   carol_slack   Team meeting 0.190247875 2.28297450
## 424  2023-08-20    Slack   @bob_tweets    Great work! 0.203791809 2.24170990
## 425  2023-08-01 Twitter    @bob_tweets Need assistance 0.148395223 2.22592835
## 426  2023-08-04 Twitter    @bob_tweets   Fun weekend! 0.185009266 2.22011119
## 427  2023-08-14 Twitter alice@example  Exciting news! 0.157755047 2.20857066
## 428  2023-08-10 Twitter  @erin_tweets    Great work! 0.199771451 2.19748596
## 429  2023-08-19 Twitter alice@example Need assistance 0.143810244 2.15715366
## 430  2023-08-12 Twitter  dave@example     Great work! 0.195303030 2.14833333
## 431  2023-08-15 Twitter alice@example  Exciting news! 0.153143482 2.14400875
## 432  2023-08-10    Slack    @frank_chat Hello everyone! 0.142070077 2.13105116
## 433  2023-08-15    Email alice@example    Team meeting 0.176413531 2.11696237
## 434  2023-08-14    Slack  @erin_tweets Need assistance 0.141076977 2.11615465
## 435  2023-08-08    Slack  @erin_tweets   Fun weekend! 0.172925062 2.07510074
## 436  2023-08-17 Twitter   carol_slack   Fun weekend! 0.172285239 2.06742287
## 437  2023-08-01    Slack   @bob_tweets  Exciting news! 0.146396939 2.04955714
## 438  2023-08-03    Slack alice@example Need assistance 0.135939530 2.03909295
## 439  2023-08-17    Slack   carol_slack   Fun weekend! 0.169502832 2.03403399
## 440  2023-08-10 Twitter  @erin_tweets    Great work! 0.181200765 1.99320841
## 441  2023-08-06 Twitter  dave@example    Team meeting 0.165403601 1.98484321
## 442  2023-08-04 Twitter    @bob_tweets   Fun weekend! 0.163814227 1.96577073
## 443  2023-08-05 Twitter   carol_slack Hello everyone! 0.130742100 1.96113150
## 444  2023-08-07    Slack   @bob_tweets    Great work! 0.170066014 1.87072615
## 445  2023-08-20 Twitter  @erin_tweets  Exciting news! 0.131818828 1.84546359
## 446  2023-08-18    Email   carol_slack Need assistance 0.121493359 1.82240039
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## 447 2023-08-12    Email alice@example Need assistance 0.120129855 1.80194782
## 448 2023-08-13 Twitter alice@example Need assistance 0.119616441 1.79424661
## 449 2023-08-19    Email  @erin_tweets    Fun weekend! 0.149510738 1.79412886
## 450 2023-08-11    Email  dave@example    Team meeting 0.146319367 1.75583241
## 451 2023-08-18 Twitter  @erin_tweets Need assistance 0.116931847 1.75397770
## 452 2023-08-01 Twitter    @frank_chat      Great work! 0.159243134 1.75167448
## 453 2023-08-06 Twitter    @bob_tweets Hello everyone! 0.116596443 1.74894664
## 454 2023-08-03 Twitter    @bob_tweets Need assistance 0.115823371 1.73735056
## 455 2023-08-08    Email    @bob_tweets Need assistance 0.115187556 1.72781333
## 456 2023-08-16 Twitter  @erin_tweets      Great work! 0.150156671 1.65172338
## 457 2023-08-02    Email    @frank_chat    Fun weekend! 0.129630754 1.55556905
## 458 2023-08-11 Twitter  dave@example    Fun weekend! 0.124404418 1.49285301
## 459 2023-08-16    Slack    @bob_tweets    Team meeting 0.120248223 1.44297867
## 460 2023-08-12    Email  dave@example Need assistance 0.091942075 1.37913112
## 461 2023-08-05 Twitter    @bob_tweets Need assistance 0.089429019 1.34143528
## 462 2023-08-04    Slack    carol_slack Need assistance 0.088740259 1.33110389
## 463 2023-08-15    Email    @frank_chat      Great work! 0.120376800 1.32414480
## 464 2023-08-10    Slack  @erin_tweets Need assistance 0.086844633 1.30266949
## 465 2023-08-08    Email  dave@example Need assistance 0.084778340 1.27167510
## 466 2023-08-18 Twitter    @bob_tweets Need assistance 0.083397951 1.25096926
## 467 2023-08-09 Twitter alice@example Need assistance 0.083300223 1.24950334
## 468 2023-08-03    Email  @erin_tweets    Team meeting 0.100578078 1.20693694
## 469 2023-08-08    Slack  @erin_tweets   Exciting news! 0.085280708 1.19392991
## 470 2023-08-07    Slack  @erin_tweets Hello everyone! 0.079340591 1.19010886
## 471 2023-08-06    Email    carol_slack Hello everyone! 0.076276061 1.14414092
## 472 2023-08-01    Slack  dave@example    Team meeting 0.093826082 1.12591298
## 473 2023-08-19    Email  dave@example    Team meeting 0.087382621 1.04859145
## 474 2023-08-20    Email    carol_slack    Team meeting 0.082343857 0.98812629
## 475 2023-08-05 Twitter alice@example    Team meeting 0.082249742 0.98699691
## 476 2023-08-10    Email  @erin_tweets Hello everyone! 0.063933458 0.95900187
## 477 2023-08-07    Email    @bob_tweets    Fun weekend! 0.079245736 0.95094884
## 478 2023-08-04    Email    @frank_chat Need assistance 0.063336529 0.95004793
## 479 2023-08-20    Email    carol_slack    Team meeting 0.078007510 0.93609012
## 480 2023-08-11    Email  dave@example Need assistance 0.060486035 0.90729052
## 481 2023-08-12    Email alice@example   Exciting news! 0.063475272 0.88865381
## 482 2023-08-06    Slack  @erin_tweets   Exciting news! 0.063273371 0.88582719
## 483 2023-08-11    Slack    carol_slack   Exciting news! 0.062969209 0.88156892
## 484 2023-08-15    Slack    @frank_chat Hello everyone! 0.058449768 0.87674651
## 485 2023-08-08    Slack  @erin_tweets    Team meeting 0.068864945 0.82637934
## 486 2023-08-10    Email    @frank_chat Hello everyone! 0.051583528 0.77375292
## 487 2023-08-08    Slack    carol_slack   Exciting news! 0.055117640 0.77164696
## 488 2023-08-04 Twitter    @bob_tweets   Exciting news! 0.053784013 0.75297619
## 489 2023-08-18    Email    @frank_chat    Fun weekend! 0.061621126 0.73945352
## 490 2023-08-02    Slack    carol_slack      Great work! 0.066785066 0.73463573
## 491 2023-08-20    Email alice@example      Great work! 0.062977130 0.69274843
## 492 2023-08-14    Email alice@example Need assistance 0.043240849 0.64861274
## 493 2023-08-13    Email alice@example Hello everyone! 0.042741961 0.64112941
## 494 2023-08-03 Twitter    carol_slack   Exciting news! 0.044649603 0.62509445
## 495 2023-08-14    Email alice@example Need assistance 0.041204039 0.61806059
## 496 2023-08-10    Slack  @erin_tweets Need assistance 0.037588875 0.56383313
## 497 2023-08-06    Slack alice@example Need assistance 0.037042340 0.55563510
## 498 2023-08-02    Slack    carol_slack    Fun weekend! 0.045978463 0.55174155
## 499 2023-08-03 Twitter    carol_slack      Great work! 0.049291416 0.54220557
## 500 2023-08-12    Email  dave@example    Fun weekend! 0.043927317 0.52712780
## 501 2023-08-11    Slack    @bob_tweets      Great work! 0.041871845 0.46059029
## 502 2023-08-12 Twitter  @erin_tweets    Fun weekend! 0.038330505 0.45996606
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## 503  2023-08-10 Twitter   carol_slack  Exciting news!  0.030849482   0.43189275
## 504  2023-08-14   Email   @erin_tweets    Fun weekend!  0.035476264   0.42571517
## 505  2023-08-19   Slack   @erin_tweets     Great work!  0.037533612   0.41286974
## 506  2023-08-10   Slack    @bob_tweets  Exciting news!  0.027252671   0.38153739
## 507  2023-08-01   Slack   @erin_tweets    Team meeting  0.031597136   0.37916563
## 508  2023-08-14 Twitter  alice@example    Team meeting  0.024089097   0.28906916
## 509  2023-08-09   Email   @erin_tweets  Exciting news!  0.020394353   0.28552094
## 510  2023-08-04   Email    @bob_tweets Need assistance  0.017915569   0.26873354
## 511  2023-08-11 Twitter   dave@example  Exciting news!  0.018387399   0.25742358
## 512  2023-08-05   Slack   dave@example     Great work!  0.018169560   0.19986515
## 513  2023-08-06 Twitter   dave@example    Fun weekend!  0.005671109   0.06805330
## 514  2023-08-01 Twitter    @frank_chat Need assistance -0.003094339  -0.04641508
## 515  2023-08-18 Twitter    @frank_chat    Team meeting -0.004460444  -0.05352532
## 516  2023-08-08   Email  alice@example  Exciting news! -0.007040349  -0.09856489
## 517  2023-08-10   Email    @frank_chat  Exciting news! -0.010767524  -0.15074534
## 518  2023-08-18 Twitter   dave@example    Team meeting -0.012694929  -0.15233915
## 519  2023-08-09 Twitter  alice@example     Great work! -0.013945965  -0.15340562
## 520  2023-08-07 Twitter   dave@example    Team meeting -0.014527882  -0.17433458
## 521  2023-08-14 Twitter    @bob_tweets     Great work! -0.018533767  -0.20387144
## 522  2023-08-16   Email   dave@example Need assistance -0.014521594  -0.21782391
## 523  2023-08-03   Email    @frank_chat     Great work! -0.022698464  -0.24968310
## 524  2023-08-09   Email   @erin_tweets  Exciting news! -0.018193701  -0.25471181
## 525  2023-08-05 Twitter   dave@example    Fun weekend! -0.021554315  -0.25865178
## 526  2023-08-13 Twitter  alice@example     Great work! -0.026141260  -0.28755386
## 527  2023-08-03 Twitter   dave@example    Team meeting -0.024207670  -0.29049204
## 528  2023-08-08 Twitter    @bob_tweets    Team meeting -0.024243061  -0.29091674
## 529  2023-08-01   Slack    @bob_tweets  Exciting news! -0.024743940  -0.34641516
## 530  2023-08-18   Email  alice@example Hello everyone! -0.024430894  -0.36646341
## 531  2023-08-11   Email  alice@example    Fun weekend! -0.034278538  -0.41134245
## 532  2023-08-16   Email    carol_slack Hello everyone! -0.029610693  -0.44416040
## 533  2023-08-11   Slack    @bob_tweets  Exciting news! -0.033773244  -0.47282542
## 534  2023-08-16   Email    carol_slack     Great work! -0.045373839  -0.49911223
## 535  2023-08-13 Twitter   dave@example    Fun weekend! -0.042934414  -0.51521297
## 536  2023-08-17 Twitter   dave@example Need assistance -0.035525655  -0.53288483
## 537  2023-08-11   Email   @erin_tweets     Great work! -0.049498704  -0.54448575
## 538  2023-08-17   Email   dave@example    Team meeting -0.047711935  -0.57254322
## 539  2023-08-05 Twitter    @bob_tweets Hello everyone! -0.038818533  -0.58227800
## 540  2023-08-04   Slack    carol_slack    Fun weekend! -0.049394990  -0.59273988
## 541  2023-08-19   Email  alice@example Hello everyone! -0.040838550  -0.61257825
## 542  2023-08-12   Email    @bob_tweets Need assistance -0.042491458  -0.63737187
## 543  2023-08-12   Slack    carol_slack Need assistance -0.044029484  -0.66044226
## 544  2023-08-09 Twitter    carol_slack    Fun weekend! -0.056202481  -0.67442977
## 545  2023-08-08   Email    @frank_chat  Exciting news! -0.050068120  -0.70095369
## 546  2023-08-10   Email    @bob_tweets    Team meeting -0.060755176  -0.72906211
## 547  2023-08-06   Slack    @frank_chat Hello everyone! -0.050532605  -0.75798908
## 548  2023-08-08   Email  alice@example     Great work! -0.068923920  -0.75816312
## 549  2023-08-14   Slack    @frank_chat  Exciting news! -0.054910814  -0.76875139
## 550  2023-08-14 Twitter   dave@example    Fun weekend! -0.064443091  -0.77331710
## 551  2023-08-18   Slack    @frank_chat     Great work! -0.071027102  -0.78129812
## 552  2023-08-15 Twitter    carol_slack    Team meeting -0.074092148  -0.88910578
## 553  2023-08-20   Email   dave@example    Team meeting -0.075425136  -0.90510163
## 554  2023-08-06 Twitter   dave@example Need assistance -0.064178423  -0.96267635
## 555  2023-08-08   Email   @erin_tweets Hello everyone! -0.064463819  -0.96695728
## 556  2023-08-17 Twitter    carol_slack Need assistance -0.065970336  -0.98955503
## 557  2023-08-04   Email   @erin_tweets Need assistance -0.070094255  -1.05141382
## 558  2023-08-18   Slack  alice@example    Fun weekend! -0.088887415  -1.06664898
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## 559  2023-08-13    Email    @bob_tweets    Team meeting -0.092784007  -1.11340808
## 560  2023-08-10    Slack    @bob_tweets Hello everyone! -0.075317414  -1.12976121
## 561  2023-08-05    Email    @frank_chat    Team meeting -0.094959955  -1.13951946
## 562  2023-08-08  Twitter    @frank_chat Hello everyone! -0.081353148  -1.22029721
## 563  2023-08-12    Email    @frank_chat    Fun weekend! -0.102208237  -1.22649885
## 564  2023-08-14    Email alice@example    Great work! -0.111933967  -1.23127363
## 565  2023-08-06    Slack alice@example    Fun weekend! -0.103599444  -1.24319333
## 566  2023-08-18    Slack alice@example    Great work! -0.114574431  -1.26031875
## 567  2023-08-19  Twitter alice@example    Fun weekend! -0.111042333  -1.33250799
## 568  2023-08-04    Slack alice@example    Team meeting -0.111247493  -1.33496992
## 569  2023-08-01    Slack    @frank_chat    Team meeting -0.113114946  -1.35737935
## 570  2023-08-20  Twitter  dave@example    Great work! -0.124954135  -1.37449549
## 571  2023-08-20    Slack    @bob_tweets    Team meeting -0.118006961  -1.41608354
## 572  2023-08-14    Email   @erin_tweets    Great work! -0.129584252  -1.42542677
## 573  2023-08-13    Slack alice@example Need assistance -0.100954488  -1.51431733
## 574  2023-08-17  Twitter   carol_slack Need assistance -0.101536875  -1.52305313
## 575  2023-08-11  Twitter  @erin_tweets Need assistance -0.102778860  -1.54168291
## 576  2023-08-12    Email    @frank_chat Need assistance -0.104900640  -1.57350959
## 577  2023-08-16    Slack  @erin_tweets  Exciting news! -0.113282133  -1.58594986
## 578  2023-08-18  Twitter   carol_slack Need assistance -0.107154121  -1.60731181
## 579  2023-08-18    Slack    @frank_chat    Team meeting -0.134102609  -1.60923131
## 580  2023-08-20    Slack  @erin_tweets    Team meeting -0.134665603  -1.61598723
## 581  2023-08-04    Email  @erin_tweets Need assistance -0.108376242  -1.62564363
## 582  2023-08-11    Slack    @frank_chat Hello everyone! -0.108963726  -1.63445589
## 583  2023-08-03    Slack alice@example    Great work! -0.150377708  -1.65415478
## 584  2023-08-15    Email   carol_slack    Fun weekend! -0.141636565  -1.69963878
## 585  2023-08-04  Twitter    @bob_tweets  Exciting news! -0.122806889  -1.71929645
## 586  2023-08-06    Slack alice@example    Fun weekend! -0.143456620  -1.72147944
## 587  2023-08-16    Slack    @frank_chat    Team meeting -0.143542713  -1.72251255
## 588  2023-08-19  Twitter  dave@example Need assistance -0.115035673  -1.72553510
## 589  2023-08-02  Twitter    @frank_chat Need assistance -0.115179492  -1.72769238
## 590  2023-08-15  Twitter    @bob_tweets    Team meeting -0.144443278  -1.73331933
## 591  2023-08-18  Twitter  dave@example    Great work! -0.160749977  -1.76824975
## 592  2023-08-06  Twitter    @bob_tweets    Fun weekend! -0.149422837  -1.79307404
## 593  2023-08-11  Twitter alice@example Hello everyone! -0.120084892  -1.80127337
## 594  2023-08-07    Email    @bob_tweets    Team meeting -0.150205611  -1.80246733
## 595  2023-08-06    Email    @bob_tweets    Fun weekend! -0.159573650  -1.91488379
## 596  2023-08-05    Slack    @frank_chat Need assistance -0.129298556  -1.93947834
## 597  2023-08-01    Email   carol_slack Need assistance -0.130674560  -1.96011839
## 598  2023-08-16  Twitter alice@example    Great work! -0.179680133  -1.97648147
## 599  2023-08-16  Twitter    @bob_tweets  Exciting news! -0.141741692  -1.98438369
## 600  2023-08-17    Email  dave@example    Fun weekend! -0.173903828  -2.08684593
## 601  2023-08-10  Twitter    @frank_chat  Exciting news! -0.149807401  -2.09730361
## 602  2023-08-01    Slack  dave@example    Team meeting -0.176315426  -2.11578512
## 603  2023-08-15  Twitter alice@example    Team meeting -0.178657859  -2.14389431
## 604  2023-08-11    Slack    @frank_chat Hello everyone! -0.143450806  -2.15176209
## 605  2023-08-07    Email    @frank_chat Hello everyone! -0.143556185  -2.15334277
## 606  2023-08-17  Twitter alice@example    Team meeting -0.189370414  -2.27244497
## 607  2023-08-07    Slack    @bob_tweets Hello everyone! -0.160779689  -2.41169534
## 608  2023-08-03    Email   carol_slack Need assistance -0.161143415  -2.41715123
## 609  2023-08-04    Slack    @bob_tweets Hello everyone! -0.161284721  -2.41927081
## 610  2023-08-01    Slack    @frank_chat    Team meeting -0.202094683  -2.42513620
## 611  2023-08-11    Slack    @frank_chat    Team meeting -0.203160496  -2.43792596
## 612  2023-08-03    Email    @frank_chat    Great work! -0.222633559  -2.44896915
## 613  2023-08-18    Slack    @bob_tweets Hello everyone! -0.164491392  -2.46737088
## 614  2023-08-20    Email alice@example Hello everyone! -0.166448134  -2.49672201
```

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## 615  2023-08-14 Twitter alice@example     Great work! -0.232635738  -2.55899312
## 616  2023-08-06    Email  @erin_tweets Hello everyone! -0.172054263  -2.58081394
## 617  2023-08-07    Email  dave@example  Exciting news! -0.184577833  -2.58408966
## 618  2023-08-08 Twitter alice@example     Great work! -0.236779108  -2.60457019
## 619  2023-08-03    Slack  @erin_tweets Need assistance -0.173975688  -2.60963533
## 620  2023-08-15 Twitter  @erin_tweets     Great work! -0.244326655  -2.68759321
## 621  2023-08-20    Email  @erin_tweets  Exciting news! -0.195798854  -2.74118396
## 622  2023-08-17    Email   @frank_chat   Team meeting -0.229243480  -2.75092176
## 623  2023-08-04    Email   @bob_tweets     Great work! -0.251496902  -2.76646592
## 624  2023-08-17 Twitter   @frank_chat   Team meeting -0.232014328  -2.78417194
## 625  2023-08-07    Email   @bob_tweets   Team meeting -0.232356975  -2.78828370
## 626  2023-08-04    Email alice@example  Exciting news! -0.200843529  -2.81180940
## 627  2023-08-04    Slack alice@example Hello everyone! -0.187917918  -2.81876877
## 628  2023-08-04    Email   @bob_tweets   Team meeting -0.235653992  -2.82784790
## 629  2023-08-05    Slack  @erin_tweets   Fun weekend! -0.240693055  -2.88831666
## 630  2023-08-16 Twitter  dave@example Need assistance -0.194268964  -2.91403446
## 631  2023-08-18 Twitter  dave@example  Exciting news! -0.209318373  -2.93045722
## 632  2023-08-05    Slack  @erin_tweets Need assistance -0.195926677  -2.93890015
## 633  2023-08-10    Slack   @frank_chat Need assistance -0.198273231  -2.97409846
## 634  2023-08-02    Email  dave@example  Exciting news! -0.212464974  -2.97450964
## 635  2023-08-19    Slack alice@example   Team meeting -0.249497572  -2.99397087
## 636  2023-08-14    Slack  @erin_tweets   Fun weekend! -0.259928443  -3.11914132
## 637  2023-08-15    Slack   @bob_tweets   Team meeting -0.271451744  -3.25742093
## 638  2023-08-04 Twitter  @erin_tweets Hello everyone! -0.217646003  -3.26469005
## 639  2023-08-12    Slack   @frank_chat Hello everyone! -0.219064676  -3.28597014
## 640  2023-08-14    Email  @erin_tweets Need assistance -0.220039924  -3.30059886
## 641  2023-08-17 Twitter   carol_slack  Exciting news! -0.237763272  -3.32868581
## 642  2023-08-19 Twitter  dave@example   Team meeting -0.284638313  -3.41565976
## 643  2023-08-07    Slack   @bob_tweets     Great work! -0.311243319  -3.42367651
## 644  2023-08-12    Slack  dave@example   Fun weekend! -0.285561244  -3.42673493
## 645  2023-08-01 Twitter   carol_slack     Great work! -0.311684015  -3.42852416
## 646  2023-08-16 Twitter  dave@example   Fun weekend! -0.286604216  -3.43925059
## 647  2023-08-16    Email   @frank_chat   Team meeting -0.287118956  -3.44542747
## 648  2023-08-10 Twitter   @frank_chat   Team meeting -0.289186294  -3.47023553
## 649  2023-08-04    Email   @frank_chat     Great work! -0.317266905  -3.48993596
## 650  2023-08-06    Slack   carol_slack  Exciting news! -0.249575844  -3.49406182
## 651  2023-08-10    Slack alice@example Need assistance -0.236316590  -3.54474884
## 652  2023-08-19 Twitter alice@example   Team meeting -0.299451457  -3.59341749
## 653  2023-08-18    Email  @erin_tweets Need assistance -0.240649289  -3.60973934
## 654  2023-08-07    Email alice@example     Great work! -0.329095908  -3.62005498
## 655  2023-08-12    Email  @erin_tweets  Exciting news! -0.260005387  -3.64007541
## 656  2023-08-11 Twitter   @frank_chat   Team meeting -0.303564250  -3.64277100
## 657  2023-08-03 Twitter   @bob_tweets Hello everyone! -0.243440011  -3.65160016
## 658  2023-08-01    Email   @frank_chat   Team meeting -0.307752223  -3.69302668
## 659  2023-08-19    Email  dave@example     Great work! -0.336303487  -3.69933836
## 660  2023-08-16 Twitter  @erin_tweets  Exciting news! -0.265161676  -3.71226346
## 661  2023-08-08    Email   @bob_tweets Need assistance -0.249764988  -3.74647482
## 662  2023-08-10    Email   @frank_chat   Team meeting -0.320194449  -3.84233339
## 663  2023-08-05    Slack   carol_slack   Team meeting -0.320228465  -3.84274158
## 664  2023-08-20 Twitter  @erin_tweets     Great work! -0.349391197  -3.84330317
## 665  2023-08-16    Email   @bob_tweets     Great work! -0.351176404  -3.86294045
## 666  2023-08-08 Twitter alice@example   Fun weekend! -0.329790550  -3.95748660
## 667  2023-08-07    Email  dave@example     Great work! -0.359934055  -3.95927461
## 668  2023-08-15    Email alice@example Need assistance -0.264464825  -3.96697238
## 669  2023-08-05    Email  @erin_tweets  Exciting news! -0.283369262  -3.96716966
## 670  2023-08-10    Email   @bob_tweets  Exciting news! -0.286527871  -4.01139019
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## 671  2023-08-16    Slack   @erin_tweets  Exciting news! -0.290788232  -4.07103525
## 672  2023-08-14 Twitter    dave@example Need assistance -0.273263505  -4.09895258
## 673  2023-08-03 Twitter    @erin_tweets    Fun weekend! -0.345988781  -4.15186537
## 674  2023-08-14    Slack    dave@example  Exciting news! -0.298691060  -4.18167484
## 675  2023-08-05 Twitter     carol_slack Hello everyone! -0.279889458  -4.19834187
## 676  2023-08-11 Twitter    @erin_tweets    Team meeting -0.351081788  -4.21298146
## 677  2023-08-17    Slack  alice@example  Exciting news! -0.301641050  -4.22297470
## 678  2023-08-02 Twitter     @bob_tweets Need assistance -0.281915764  -4.22873646
## 679  2023-08-05    Slack   @erin_tweets  Exciting news! -0.302134784  -4.22988698
## 680  2023-08-06    Slack   @erin_tweets     Great work! -0.387922954  -4.26715249
## 681  2023-08-01    Email    carol_slack     Great work! -0.389590032  -4.28549035
## 682  2023-08-02    Email    dave@example    Fun weekend! -0.357268680  -4.28722416
## 683  2023-08-07 Twitter     @bob_tweets     Great work! -0.389785778  -4.28764356
## 684  2023-08-09    Slack    dave@example    Fun weekend! -0.358376735  -4.30052082
## 685  2023-08-09    Slack    carol_slack Hello everyone! -0.289897254  -4.34845881
## 686  2023-08-10 Twitter     dave@example    Fun weekend! -0.363247766  -4.35897319
## 687  2023-08-07 Twitter   alice@example    Team meeting -0.365139902  -4.38167883
## 688  2023-08-06    Email    @bob_tweets     Great work! -0.400677142  -4.40744856
## 689  2023-08-20 Twitter    @erin_tweets     Great work! -0.404516522  -4.44968174
## 690  2023-08-19 Twitter     @frank_chat    Fun weekend! -0.371842024  -4.46210429
## 691  2023-08-12 Twitter     @bob_tweets     Great work! -0.405934577  -4.46528035
## 692  2023-08-09    Email    @frank_chat    Fun weekend! -0.372473280  -4.46967936
## 693  2023-08-20    Email    @bob_tweets Need assistance -0.299717092  -4.49575639
## 694  2023-08-09    Email    @bob_tweets    Fun weekend! -0.375794835  -4.50953802
## 695  2023-08-08    Slack   @erin_tweets     Great work! -0.410223121  -4.51245433
## 696  2023-08-18    Email  alice@example    Team meeting -0.377541550  -4.53049859
## 697  2023-08-06    Email    @bob_tweets     Great work! -0.417041691  -4.58745860
## 698  2023-08-06 Twitter     carol_slack  Exciting news! -0.329569053  -4.61396675
## 699  2023-08-06 Twitter     carol_slack    Team meeting -0.385177557  -4.62213068
## 700  2023-08-05    Slack    @bob_tweets    Team meeting -0.386754569  -4.64105483
## 701  2023-08-07 Twitter     @bob_tweets    Fun weekend! -0.390309056  -4.68370868
## 702  2023-08-09 Twitter   alice@example    Fun weekend! -0.391704335  -4.70045202
## 703  2023-08-10    Email    @bob_tweets Need assistance -0.316063035  -4.74094553
## 704  2023-08-06    Email   @erin_tweets Hello everyone! -0.318016798  -4.77025197
## 705  2023-08-16    Slack    carol_slack Hello everyone! -0.321912185  -4.82868277
## 706  2023-08-13    Slack    @bob_tweets     Great work! -0.443448592  -4.87793451
## 707  2023-08-01 Twitter    @erin_tweets Hello everyone! -0.325806037  -4.88709056
## 708  2023-08-07    Email   @erin_tweets     Great work! -0.446627778  -4.91290556
## 709  2023-08-12 Twitter    @erin_tweets Need assistance -0.329706852  -4.94560278
## 710  2023-08-13 Twitter     carol_slack    Fun weekend! -0.412842807  -4.95411368
## 711  2023-08-04    Email   @erin_tweets    Fun weekend! -0.415885320  -4.99062384
## 712  2023-08-17 Twitter    @erin_tweets    Fun weekend! -0.417790642  -5.01348770
## 713  2023-08-20    Slack  alice@example     Great work! -0.459148118  -5.05062930
## 714  2023-08-07    Email    @bob_tweets    Team meeting -0.423585835  -5.08303002
## 715  2023-08-12 Twitter     dave@example     Great work! -0.462906254  -5.09196879
## 716  2023-08-10 Twitter    @erin_tweets Need assistance -0.340010146  -5.10015219
## 717  2023-08-03    Email    @frank_chat Need assistance -0.345415825  -5.18123738
## 718  2023-08-20 Twitter   alice@example    Fun weekend! -0.436848105  -5.24217726
## 719  2023-08-15    Slack    dave@example     Great work! -0.481857921  -5.30043714
## 720  2023-08-07 Twitter     carol_slack Hello everyone! -0.355751095  -5.33626642
## 721  2023-08-07    Slack    @bob_tweets Need assistance -0.356371285  -5.34556928
## 722  2023-08-10    Slack  alice@example Need assistance -0.356432681  -5.34649022
## 723  2023-08-20    Slack   @erin_tweets Hello everyone! -0.357717138  -5.36575707
## 724  2023-08-03    Slack    dave@example     Great work! -0.488912587  -5.37803846
## 725  2023-08-14    Email    dave@example Hello everyone! -0.359136123  -5.38704185
## 726  2023-08-12    Slack   @erin_tweets Hello everyone! -0.360894154  -5.41341231
```

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## 727   2023-08-08    Slack   carol_slack   Exciting news! -0.388513986  -5.43919581
## 728   2023-08-09  Twitter   dave@example     Great work! -0.495721815  -5.45293997
## 729   2023-08-12  Twitter   carol_slack     Fun weekend! -0.455487390  -5.46584868
## 730   2023-08-13  Twitter    @frank_chat Hello everyone! -0.369747002  -5.54620503
## 731   2023-08-10  Twitter   dave@example     Great work! -0.505026447  -5.55529091
## 732   2023-08-01  Twitter    @frank_chat  Exciting news! -0.398672424  -5.58141394
## 733   2023-08-17    Email    @bob_tweets    Team meeting -0.467768930  -5.61322716
## 734   2023-08-16  Twitter   carol_slack  Need assistance -0.375053814  -5.62580721
## 735   2023-08-19    Slack    @frank_chat    Team meeting -0.472906698  -5.67488038
## 736   2023-08-19  Twitter  alice@example Hello everyone! -0.378329881  -5.67494822
## 737   2023-08-02    Slack   @erin_tweets    Fun weekend! -0.474169046  -5.69002855
## 738   2023-08-14    Slack   @erin_tweets     Great work! -0.518683678  -5.70552046
## 739   2023-08-20  Twitter    @frank_chat    Team meeting -0.476500273  -5.71800328
## 740   2023-08-03  Twitter    @bob_tweets  Exciting news! -0.408464086  -5.71849721
## 741   2023-08-14    Slack    @frank_chat Need assistance -0.384110797  -5.76166195
## 742   2023-08-19    Slack   dave@example     Great work! -0.526421044  -5.79063148
## 743   2023-08-06  Twitter   @erin_tweets  Exciting news! -0.415566467  -5.81793053
## 744   2023-08-02    Slack  alice@example    Fun weekend! -0.485003887  -5.82004664
## 745   2023-08-20    Slack  alice@example  Exciting news! -0.415822029  -5.82150840
## 746   2023-08-12    Email   carol_slack    Team meeting -0.492082868  -5.90499442
## 747   2023-08-13    Slack  alice@example    Team meeting -0.493501368  -5.92201642
## 748   2023-08-11    Email    @bob_tweets     Great work! -0.539260621  -5.93186683
## 749   2023-08-18    Slack   @erin_tweets Hello everyone! -0.395961934  -5.93942901
## 750   2023-08-04  Twitter   dave@example    Fun weekend! -0.495438306  -5.94525967
## 751   2023-08-10  Twitter   @erin_tweets    Fun weekend! -0.496555788  -5.95866945
## 752   2023-08-06    Slack  alice@example     Great work! -0.545365768  -5.99902345
## 753   2023-08-07  Twitter    @bob_tweets     Great work! -0.548428072  -6.03270879
## 754   2023-08-11    Slack    @bob_tweets     Great work! -0.549234209  -6.04157630
## 755   2023-08-06  Twitter   dave@example  Exciting news! -0.433124611  -6.06374456
## 756   2023-08-07    Slack    @bob_tweets    Fun weekend! -0.511013610  -6.13216332
## 757   2023-08-18  Twitter    @frank_chat  Exciting news! -0.445320373  -6.23448522
## 758   2023-08-13    Slack   carol_slack Hello everyone! -0.416070993  -6.24106490
## 759   2023-08-10    Email    @frank_chat    Fun weekend! -0.520876877  -6.25052253
## 760   2023-08-01  Twitter    @frank_chat    Team meeting -0.526283488  -6.31540185
## 761   2023-08-20    Slack   carol_slack     Great work! -0.574539005  -6.31992906
## 762   2023-08-10  Twitter    @frank_chat    Fun weekend! -0.528116655  -6.33739986
## 763   2023-08-01  Twitter    @bob_tweets  Exciting news! -0.452694423  -6.33772192
## 764   2023-08-19    Email   dave@example    Team meeting -0.528815492  -6.34578590
## 765   2023-08-04    Slack    @frank_chat    Fun weekend! -0.530567507  -6.36681008
## 766   2023-08-06    Email   carol_slack     Great work! -0.579760317  -6.37736349
## 767   2023-08-13  Twitter    @frank_chat Hello everyone! -0.426096413  -6.39144620
## 768   2023-08-16  Twitter    @bob_tweets    Fun weekend! -0.533522750  -6.40227300
## 769   2023-08-06    Slack   dave@example    Team meeting -0.536957865  -6.44349438
## 770   2023-08-04    Email    @bob_tweets    Fun weekend! -0.539049788  -6.46859746
## 771   2023-08-12  Twitter   carol_slack Need assistance -0.435741366  -6.53612049
## 772   2023-08-20    Slack   carol_slack     Great work! -0.595158034  -6.54673837
## 773   2023-08-07  Twitter   @erin_tweets     Great work! -0.597466531  -6.57213184
## 774   2023-08-06    Email   dave@example Need assistance -0.438415068  -6.57622602
## 775   2023-08-15    Email    @frank_chat Need assistance -0.438784983  -6.58177475
## 776   2023-08-06  Twitter    @bob_tweets    Team meeting -0.549432104  -6.59318525
## 777   2023-08-03    Email  alice@example Hello everyone! -0.440484574  -6.60726860
## 778   2023-08-16    Email    @frank_chat    Fun weekend! -0.552409418  -6.62891302
## 779   2023-08-20    Slack   dave@example  Exciting news! -0.476039052  -6.66454673
## 780   2023-08-14    Email   @erin_tweets Hello everyone! -0.446434771  -6.69652157
## 781   2023-08-18    Email    @bob_tweets    Fun weekend! -0.558283084  -6.69939701
## 782   2023-08-18    Slack    @bob_tweets    Fun weekend! -0.558302570  -6.69963084
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## 783   2023-08-06   Slack    @bob_tweets Hello everyone! -0.452905738  -6.79358607
## 784   2023-08-18   Slack   dave@example    Fun weekend! -0.566594298  -6.79913158
## 785   2023-08-12  Twitter  alice@example   Exciting news! -0.487793705  -6.82911187
## 786   2023-08-18   Email    @frank_chat    Fun weekend! -0.569811309  -6.83773571
## 787   2023-08-16   Email    @bob_tweets  Need assistance -0.459899545  -6.89849318
## 788   2023-08-15   Email   @erin_tweets    Fun weekend! -0.576360519  -6.91632623
## 789   2023-08-08   Slack   @erin_tweets  Need assistance -0.461871512  -6.92807268
## 790   2023-08-05  Twitter  alice@example     Great work! -0.630844017  -6.93928418
## 791   2023-08-11  Twitter  @erin_tweets  Need assistance -0.462980804  -6.94471205
## 792   2023-08-16   Email    @frank_chat    Fun weekend! -0.584208118  -7.01049741
## 793   2023-08-17  Twitter  alice@example     Great work! -0.641657173  -7.05822890
## 794   2023-08-07   Slack   @erin_tweets      Great work! -0.643276188  -7.07603807
## 795   2023-08-14  Twitter  alice@example     Great work! -0.652119522  -7.17331475
## 796   2023-08-17  Twitter   @frank_chat    Team meeting -0.608078998  -7.29694798
## 797   2023-08-02   Slack    @bob_tweets      Great work! -0.666475324  -7.33122857
## 798   2023-08-02  Twitter  @erin_tweets   Exciting news! -0.525143623  -7.35201072
## 799   2023-08-17  Twitter   @bob_tweets  Need assistance -0.493062959  -7.39594438
## 800   2023-08-16  Twitter   @bob_tweets      Great work! -0.674055766  -7.41461343
## 801   2023-08-14   Slack   dave@example   Exciting news! -0.531753783  -7.44455296
## 802   2023-08-19   Email   dave@example   Exciting news! -0.533024813  -7.46234738
## 803   2023-08-17  Twitter   @frank_chat    Fun weekend! -0.624432764  -7.49319317
## 804   2023-08-18   Slack   @erin_tweets   Exciting news! -0.537696546  -7.52775165
## 805   2023-08-09   Slack   alice@example  Exciting news! -0.539138246  -7.54793544
## 806   2023-08-20  Twitter  dave@example   Exciting news! -0.542942689  -7.60119764
## 807   2023-08-13   Email    @frank_chat     Great work! -0.693289580  -7.62618538
## 808   2023-08-15   Slack    @frank_chat Hello everyone! -0.508614742  -7.62922113
## 809   2023-08-18   Email    carol_slack   Exciting news! -0.546088908  -7.64524471
## 810   2023-08-15   Slack   dave@example Hello everyone! -0.510870771  -7.66306156
## 811   2023-08-11   Email   alice@example    Team meeting -0.641849058  -7.70218869
## 812   2023-08-17   Slack    @frank_chat     Great work! -0.700269639  -7.70296603
## 813   2023-08-11   Slack    @frank_chat    Team meeting -0.642315470  -7.70778564
## 814   2023-08-13   Slack   @erin_tweets  Need assistance -0.514785561  -7.72178342
## 815   2023-08-11   Slack   @erin_tweets      Great work! -0.704862314  -7.75348546
## 816   2023-08-13  Twitter   @bob_tweets      Great work! -0.705626460  -7.76189106
## 817   2023-08-07   Email   dave@example Hello everyone! -0.526591262  -7.89886893
## 818   2023-08-19   Slack   @erin_tweets      Great work! -0.725357866  -7.97893653
## 819   2023-08-17  Twitter  @erin_tweets     Team meeting -0.666378770  -7.99654525
## 820   2023-08-01   Email    @frank_chat     Team meeting -0.670432338  -8.04518806
## 821   2023-08-14  Twitter   @frank_chat     Fun weekend! -0.672147054  -8.06576465
## 822   2023-08-12   Slack    carol_slack      Great work! -0.733910211  -8.07301232
## 823   2023-08-08  Twitter   @frank_chat     Fun weekend! -0.673607849  -8.08329418
## 824   2023-08-16  Twitter  @erin_tweets     Team meeting -0.674190784  -8.09028941
## 825   2023-08-11   Slack    @bob_tweets  Need assistance -0.542398809  -8.13598214
## 826   2023-08-14  Twitter  @erin_tweets  Need assistance -0.543064435  -8.14596653
## 827   2023-08-15   Slack    @frank_chat   Exciting news! -0.582243779  -8.15141290
## 828   2023-08-13   Slack   @erin_tweets  Need assistance -0.544543609  -8.16815414
## 829   2023-08-20  Twitter  @erin_tweets      Great work! -0.743658878  -8.18024766
## 830   2023-08-11   Email    carol_slack  Need assistance -0.547700667  -8.21551000
## 831   2023-08-11  Twitter   @bob_tweets      Great work! -0.751736611  -8.26910272
## 832   2023-08-04  Twitter  alice@example    Fun weekend! -0.693275109  -8.31930131
## 833   2023-08-20   Email   alice@example Hello everyone! -0.555095884  -8.32643827
## 834   2023-08-12   Email    @bob_tweets   Exciting news! -0.597888714  -8.37044200
## 835   2023-08-19   Slack    @bob_tweets Hello everyone! -0.558468956  -8.37703433
## 836   2023-08-15   Slack   @erin_tweets Hello everyone! -0.562214842  -8.43322262
## 837   2023-08-04   Email   alice@example     Great work! -0.769964864  -8.46961350
## 838   2023-08-15  Twitter  alice@example    Fun weekend! -0.707901944  -8.49482333
```

```
## 839  2023-08-03 Twitter alice@example Hello everyone! -0.567197050  -8.50795575
## 840  2023-08-14   Slack   @bob_tweets    Team meeting -0.709024122  -8.50828946
## 841  2023-08-12 Twitter   @bob_tweets   Exciting news! -0.608554570  -8.51976397
## 842  2023-08-08   Slack  @erin_tweets Hello everyone! -0.568787924  -8.53181886
## 843  2023-08-09   Email   @frank_chat    Team meeting -0.712716471  -8.55259765
## 844  2023-08-03   Slack   carol_slack     Great work! -0.777630202  -8.55393222
## 845  2023-08-01   Slack   @frank_chat Hello everyone! -0.572465386  -8.58698079
## 846  2023-08-04 Twitter   carol_slack   Exciting news! -0.615862965  -8.62208151
## 847  2023-08-18   Slack  dave@example    Team meeting -0.718652172  -8.62382607
## 848  2023-08-12   Email alice@example   Exciting news! -0.616592484  -8.63229478
## 849  2023-08-02   Email alice@example     Great work! -0.784876938  -8.63364631
## 850  2023-08-07   Email   @bob_tweets   Exciting news! -0.616928389  -8.63699745
## 851  2023-08-13 Twitter  dave@example   Exciting news! -0.618614707  -8.66060589
## 852  2023-08-18 Twitter  dave@example Need assistance -0.577738499  -8.66607749
## 853  2023-08-07   Email  dave@example    Fun weekend! -0.735883705  -8.83060446
## 854  2023-08-06   Slack   carol_slack   Exciting news! -0.633368273  -8.86715583
## 855  2023-08-13 Twitter alice@example     Great work! -0.806566573  -8.87223230
## 856  2023-08-15   Email  @erin_tweets Hello everyone! -0.598425182  -8.97637772
## 857  2023-08-09 Twitter  @erin_tweets Need assistance -0.600080754  -9.00121131
## 858  2023-08-03   Slack  @erin_tweets Need assistance -0.600851388  -9.01277082
## 859  2023-08-07 Twitter   @frank_chat     Great work! -0.823533585  -9.05886944
## 860  2023-08-17 Twitter alice@example Hello everyone! -0.605858998  -9.08788498
## 861  2023-08-19   Email  @erin_tweets    Team meeting -0.757670477  -9.09204572
## 862  2023-08-17 Twitter  @erin_tweets Hello everyone! -0.606922586  -9.10383880
## 863  2023-08-15   Slack   carol_slack    Fun weekend! -0.760701751  -9.12842101
## 864  2023-08-07   Slack   @bob_tweets Need assistance -0.611560303  -9.17340454
## 865  2023-08-12   Slack   @frank_chat Need assistance -0.611636332  -9.17454498
## 866  2023-08-18 Twitter  dave@example Need assistance -0.613432584  -9.20148876
## 867  2023-08-01   Slack   @bob_tweets Need assistance -0.614020258  -9.21030387
## 868  2023-08-07   Email   @bob_tweets    Team meeting -0.767587414  -9.21104897
## 869  2023-08-18 Twitter   @bob_tweets     Great work! -0.839583620  -9.23541982
## 870  2023-08-12   Email  dave@example     Great work! -0.841218561  -9.25340417
## 871  2023-08-02   Slack  dave@example   Exciting news! -0.662697271  -9.27776179
## 872  2023-08-16   Slack   @bob_tweets    Team meeting -0.774452816  -9.29343379
## 873  2023-08-07   Slack  @erin_tweets    Team meeting -0.780283807  -9.36340568
## 874  2023-08-17   Slack alice@example     Great work! -0.853163924  -9.38480316
## 875  2023-08-04 Twitter  dave@example    Team meeting -0.785379849  -9.42455819
## 876  2023-08-12 Twitter  dave@example    Team meeting -0.786887704  -9.44265245
## 877  2023-08-09   Email   @frank_chat    Fun weekend! -0.789119672  -9.46943606
## 878  2023-08-19   Slack  dave@example    Team meeting -0.789976987  -9.47972384
## 879  2023-08-09   Email   @frank_chat Hello everyone! -0.633588556  -9.50382834
## 880  2023-08-04 Twitter  dave@example Need assistance -0.635092593  -9.52638890
## 881  2023-08-01   Email   @frank_chat    Fun weekend! -0.797102704  -9.56523244
## 882  2023-08-15 Twitter   carol_slack Hello everyone! -0.638266036  -9.57399054
## 883  2023-08-15 Twitter   @frank_chat Need assistance -0.639425840  -9.59138760
## 884  2023-08-11   Slack alice@example    Fun weekend! -0.799520459  -9.59424550
## 885  2023-08-07   Slack alice@example   Exciting news! -0.686074989  -9.60504984
## 886  2023-08-20   Email   @bob_tweets    Team meeting -0.801527123  -9.61832548
## 887  2023-08-15   Email   @bob_tweets    Team meeting -0.801572199  -9.61886638
## 888  2023-08-02 Twitter   carol_slack   Exciting news! -0.693217811  -9.70504935
## 889  2023-08-14 Twitter  @erin_tweets Hello everyone! -0.647561021  -9.71341532
## 890  2023-08-03   Slack  @erin_tweets    Team meeting -0.812502595  -9.75003114
## 891  2023-08-02   Slack  @erin_tweets     Great work! -0.887057793  -9.75763572
## 892  2023-08-14   Email   @bob_tweets    Team meeting -0.815906889  -9.79088267
## 893  2023-08-20 Twitter  dave@example    Fun weekend! -0.818538250  -9.82245900
## 894  2023-08-19   Email  @erin_tweets    Team meeting -0.823923888  -9.88708666
```

```
## 895 2023-08-03    Email  @erin_tweets     Great work! -0.900102365  -9.90112602
## 896 2023-08-08    Email alice@example Hello everyone! -0.666331347  -9.99497020
## 897 2023-08-14    Email  @erin_tweets     Fun weekend! -0.835450725 -10.02540870
## 898 2023-08-14 Twitter    @frank_chat     Great work! -0.912142744 -10.03357018
## 899 2023-08-18    Slack  @erin_tweets   Exciting news! -0.719712700 -10.07597780
## 900 2023-08-04    Slack   dave@example     Fun weekend! -0.848228461 -10.17874153
## 901 2023-08-03 Twitter  @erin_tweets Need assistance -0.680233249 -10.20349873
## 902 2023-08-14    Slack  @erin_tweets   Exciting news! -0.736287751 -10.30802851
## 903 2023-08-15    Slack  @erin_tweets Hello everyone! -0.689319659 -10.33979489
## 904 2023-08-14    Slack alice@example Hello everyone! -0.691606675 -10.37410012
## 905 2023-08-13 Twitter    @frank_chat Hello everyone! -0.694118693 -10.41178040
## 906 2023-08-13    Slack   carol_slack     Great work! -0.947211589 -10.41932748
## 907 2023-08-01    Email   dave@example     Great work! -0.948017055 -10.42818761
## 908 2023-08-15    Email   carol_slack   Exciting news! -0.745493084 -10.43690318
## 909 2023-08-01 Twitter    @frank_chat Need assistance -0.696885624 -10.45328437
## 910 2023-08-17    Email    @frank_chat     Great work! -0.951084716 -10.46193188
## 911 2023-08-10    Slack   dave@example   Exciting news! -0.750027833 -10.50038966
## 912 2023-08-13 Twitter  @erin_tweets     Great work! -0.956337988 -10.51971787
## 913 2023-08-01    Slack   carol_slack     Fun weekend! -0.877705400 -10.53246480
## 914 2023-08-13 Twitter    @frank_chat    Team meeting -0.877922161 -10.53506594
## 915 2023-08-10 Twitter   dave@example    Team meeting -0.879799920 -10.55759904
## 916 2023-08-19    Slack    @frank_chat    Team meeting -0.887928675 -10.65514410
## 917 2023-08-10    Slack   dave@example   Exciting news! -0.762122771 -10.66971880
## 918 2023-08-14 Twitter    @bob_tweets     Great work! -0.970631612 -10.67694773
## 919 2023-08-12 Twitter   dave@example Need assistance -0.713639749 -10.70459624
## 920 2023-08-11    Slack  @erin_tweets    Team meeting -0.893834382 -10.72601259
## 921 2023-08-06    Slack   @bob_tweets     Fun weekend! -0.895003283 -10.74003940
## 922 2023-08-08 Twitter    @bob_tweets Need assistance -0.716619523 -10.74929284
## 923 2023-08-18    Email   dave@example   Exciting news! -0.768564025 -10.75989636
## 924 2023-08-07    Slack   dave@example Need assistance -0.718395420 -10.77593130
## 925 2023-08-18    Slack   @bob_tweets     Fun weekend! -0.898072343 -10.77686812
## 926 2023-08-17    Email    @frank_chat Exciting news! -0.770805090 -10.79127126
## 927 2023-08-09    Email   @bob_tweets Hello everyone! -0.725457437 -10.88186155
## 928 2023-08-09 Twitter alice@example  Exciting news! -0.792284821 -11.09198750
## 929 2023-08-10 Twitter    @frank_chat Hello everyone! -0.740855453 -11.11283179
## 930 2023-08-11 Twitter    @frank_chat    Fun weekend! -0.926554946 -11.11865935
## 931 2023-08-13    Slack alice@example    Team meeting -0.927027794 -11.12433352
## 932 2023-08-06    Slack   @bob_tweets     Fun weekend! -0.927836751 -11.13404101
## 933 2023-08-16    Email  @erin_tweets     Fun weekend! -0.928850479 -11.14620575
## 934 2023-08-05 Twitter    @bob_tweets   Exciting news! -0.798021044 -11.17229462
## 935 2023-08-16    Slack    @frank_chat    Team meeting -0.933677876 -11.20413451
## 936 2023-08-10    Slack   dave@example    Team meeting -0.934943126 -11.21931751
## 937 2023-08-14 Twitter    @frank_chat    Team meeting -0.935610580 -11.22732696
## 938 2023-08-17    Slack    carol_slack Need assistance -0.750471560 -11.25707340
## 939 2023-08-10    Slack alice@example    Team meeting -0.939407335 -11.27288802
## 940 2023-08-18    Slack   @bob_tweets Need assistance -0.754348847 -11.31523270
## 941 2023-08-19    Email    @frank_chat    Team meeting -0.943049938 -11.31659926
## 942 2023-08-15 Twitter    carol_slack Hello everyone! -0.761104998 -11.41657497
## 943 2023-08-04    Email   @bob_tweets     Fun weekend! -0.953222217 -11.43866660
## 944 2023-08-11    Slack   @bob_tweets    Team meeting -0.955364774 -11.46437728
## 945 2023-08-09    Email  @erin_tweets    Team meeting -0.956999032 -11.48398839
## 946 2023-08-10    Slack  @erin_tweets Need assistance -0.766245456 -11.49368184
## 947 2023-08-13 Twitter alice@example    Fun weekend! -0.958858334 -11.50630001
## 948 2023-08-01 Twitter    @frank_chat   Exciting news! -0.822780307 -11.51892430
## 949 2023-08-07    Slack   dave@example   Exciting news! -0.823877914 -11.53429080
## 950 2023-08-18    Email   dave@example Need assistance -0.770186925 -11.55280388
```

```
## 951  2023-08-04 Twitter    @bob_tweets Hello everyone! -0.774547359 -11.61821038
## 952  2023-08-08    Email   @erin_tweets Need assistance -0.775436828 -11.63155242
## 953  2023-08-10    Email    carol_slack    Team meeting -0.970338997 -11.64406797
## 954  2023-08-10 Twitter     @frank_chat    Team meeting -0.976236885 -11.71484262
## 955  2023-08-08    Email   @erin_tweets  Exciting news! -0.847681918 -11.86754685
## 956  2023-08-20    Email    @frank_chat    Team meeting -0.993759494 -11.92511393
## 957  2023-08-14    Email    @bob_tweets    Team meeting -0.996662613 -11.95995136
## 958  2023-08-14    Slack  alice@example Hello everyone! -0.798660460 -11.97990691
## 959  2023-08-14 Twitter   dave@example    Fun weekend! -0.998980226 -11.98776271
## 960  2023-08-16    Email  alice@example  Exciting news! -0.858994203 -12.02591884
## 961  2023-08-17 Twitter    carol_slack Need assistance -0.806338225 -12.09507338
## 962  2023-08-08    Slack  alice@example Hello everyone! -0.812013249 -12.18019874
## 963  2023-08-11    Slack    @frank_chat  Exciting news! -0.871460078 -12.20044109
## 964  2023-08-10    Slack    @bob_tweets  Exciting news! -0.873230109 -12.22522152
## 965  2023-08-10    Email  alice@example Need assistance -0.815106571 -12.22659857
## 966  2023-08-16 Twitter    carol_slack  Exciting news! -0.875286373 -12.25400923
## 967  2023-08-05    Email  alice@example Hello everyone! -0.822144668 -12.33217002
## 968  2023-08-14    Email   dave@example Need assistance -0.829999507 -12.44999260
## 969  2023-08-13    Email   dave@example Need assistance -0.834047724 -12.51071587
## 970  2023-08-17    Email    @frank_chat Need assistance -0.837423526 -12.56135289
## 971  2023-08-11    Email  alice@example  Exciting news! -0.901918261 -12.62685565
## 972  2023-08-11    Slack   dave@example Hello everyone! -0.843954970 -12.65932455
## 973  2023-08-07    Slack    @bob_tweets Need assistance -0.846264025 -12.69396038
## 974  2023-08-16    Email    carol_slack Hello everyone! -0.851052538 -12.76578807
## 975  2023-08-10    Email    @frank_chat Need assistance -0.857863282 -12.86794923
## 976  2023-08-20    Slack  alice@example Hello everyone! -0.863882122 -12.95823183
## 977  2023-08-13    Email    carol_slack  Exciting news! -0.930242309 -13.02339232
## 978  2023-08-16    Slack    @frank_chat Hello everyone! -0.878399170 -13.17598754
## 979  2023-08-08    Slack   @erin_tweets Need assistance -0.879413284 -13.19119926
## 980  2023-08-06 Twitter  alice@example Hello everyone! -0.882707532 -13.24061299
## 981  2023-08-13 Twitter    @bob_tweets Need assistance -0.883181106 -13.24771659
## 982  2023-08-14 Twitter  alice@example Hello everyone! -0.892831107 -13.39246661
## 983  2023-08-03 Twitter  alice@example Hello everyone! -0.893453151 -13.40179727
## 984  2023-08-10    Slack   @erin_tweets Need assistance -0.904224418 -13.56336626
## 985  2023-08-18    Email    carol_slack  Exciting news! -0.978982675 -13.70575745
## 986  2023-08-10    Slack  alice@example Need assistance -0.917325706 -13.75988559
## 987  2023-08-01 Twitter    @bob_tweets Hello everyone! -0.918783627 -13.78175441
## 988  2023-08-12    Slack    carol_slack Need assistance -0.919222645 -13.78833968
## 989  2023-08-14    Slack    @frank_chat Need assistance -0.920249034 -13.80373551
## 990  2023-08-12    Email  alice@example  Exciting news! -0.995861550 -13.94206170
## 991  2023-08-09    Slack   @erin_tweets Hello everyone! -0.932525445 -13.98788168
## 992  2023-08-18 Twitter  alice@example Hello everyone! -0.936083395 -14.04125092
## 993  2023-08-13    Email   @erin_tweets Hello everyone! -0.939573104 -14.09359656
## 994  2023-08-05    Slack    @bob_tweets Hello everyone! -0.940684421 -14.11026632
## 995  2023-08-13    Slack   dave@example Hello everyone! -0.945477226 -14.18215839
## 996  2023-08-01 Twitter    @frank_chat Need assistance -0.970480603 -14.55720904
## 997  2023-08-06    Email   dave@example Hello everyone! -0.987261285 -14.80891927
## 998  2023-08-01    Slack   dave@example Need assistance -0.988749139 -14.83123708
## 999  2023-08-08    Email    @frank_chat Need assistance -0.992002849 -14.88004273
## 1000 2023-08-08    Email   dave@example Need assistance -0.998774239 -14.98161358
```

Question-12: Daily Message Challenge

Use the group_by, summarise, and arrange commands to find the day with the highest total number of characters sent across all messages in the "comm_data" dataframe.

Solution:

```
# Enter code here
comm_data %>%
  group_by(date) %>%
  summarise(total_characters = sum(nchar(message))) %>%
  arrange(desc(total_characters)) %>%
  slice(1)
```

```
## # A tibble: 1 × 2
##   date        total_characters
##   <chr>                  <int>
## 1 2023-08-10               875
```

Question-13: Untidy data

Can you list at least two reasons why the dataset illustrated in slide 10 is non-tidy? How can it be made Tidy?

Solution: 1. There are mulitple variables stored within one column (i.e., the demographic and the employment status are both stored under the "subject" column). 2. The type of value stored in the column is not consistent (i.e., numbers are being stored under "percent" column).

How it can be improved - There can be new columns for employment status, gender and age.