

Case Study 2: Investigating Metric Spike

A. Weekly User Engagement:

- Objective: Measure the activeness of users on a weekly basis.
- Your Task: Write an SQL query to calculate the weekly user engagement.

SQL Query:-

```
WITH weekly_activity AS (  
    SELECT  
        YEARWEEK(created_at, 1) AS week_start,  
        user_id,  
        COUNT(DISTINCT action) AS email_actions_count,  
        0 AS event_types_count  
    FROM email_events  
    GROUP BY week_start, user_id  
    UNION ALL  
    SELECT  
        YEARWEEK(created_at, 1) AS week_start,  
        user_id,  
        0 AS email_actions_count,  
        COUNT(DISTINCT event_type) AS event_types_count  
    FROM events  
    GROUP BY week_start, user_id  
)  
SELECT  
    week_start,
```

```

COUNT(DISTINCT user_id) AS active_users,
SUM(email_actions_count) AS total_email_actions,
SUM(event_types_count) AS total_event_types
FROM weekly_activity
GROUP BY week_start
ORDER BY week_start;

```

Output

week_start(Year week)	Active_users	Total_email_actions	Total_events_type
201418	1408	1525	782
201419	2916	4107	1214
201420	3004	4279	1280
201421	3082	4391	1324
201422	3153	4456	1299
201423	3264	4565	1370
201424	3355	4778	1417
201425	3468	5041	1485
201426	3556	4991	1459
201427	3656	5235	1470
201428	3767	5447	1578
201429	3880	5573	1560
201430	3987	5576	1591
201431	4122	5937	1677
201432	4178	5758	1455
201433	4320	5891	1465
201434	4458	6167	1462
201435	4577	6370	1460

B. User Growth Analysis:

- Objective: Analyze the growth of users over time for a product.
- Your Task: Write an SQL query to calculate the user growth for the product.

SQL Query:-

```
SET @cumulative_users := 0;
```

```
WITH user_growth AS (
```

```
    SELECT
```

```
        DATE(created_at) AS creation_date,
```

```
        COUNT(user_id) AS new_users
```

```
    FROM users
```

```
    WHERE created_at IS NOT NULL
```

```
    GROUP BY creation_date
```

```
    ORDER BY creation_date
```

```
)
```

```
SELECT
```

```
    creation_date,
```

```
    new_users,
```

```
    (@cumulative_users := @cumulative_users + new_users) AS  
cumulative_users -- Calculate cumulative user growth
```

```
FROM user_growth;
```

Output:-

Creation_at	New_users	Cumulative_users
2013-01-01	7	7
2013-01-02	7	14
2013-01-03	6	20
2013-01-04	1	21
2013-01-05	2	23
2013-01-06	3	26
2013-01-07	4	30
2013-01-08	2	32
2013-01-09	6	38
2013-01-10	6	44
2013-01-11	6	50
2013-01-12	3	53
2013-01-13	2	55
2013-01-14	8	63
2013-01-15	11	74
2013-01-16	7	81
2013-01-17	9	90
2013-01-18	10	100
2013-01-19	1	101
2013-01-20	1	102
2013-01-21	7	109
2013-01-22	5	114
2013-01-23	7	121
2013-01-24	5	126
2013-01-25	8	134
2013-01-26	3	137
2013-01-27	1	138
2013-01-28	7	145
2013-01-29	3	148
2013-01-30	6	154
2013-01-31	6	160
2013-02-01	4	164
2013-02-02	3	167
2013-02-03	1	168
2013-02-04	10	178
2013-02-05	12	190
2013-02-06	6	196

2013-02-07	10	206
2013-02-08	7	213
2013-02-09	2	215
2013-02-10	1	216
2013-02-11	4	220
2013-02-12	9	229
2013-02-13	7	236
2013-02-14	11	247
2013-02-15	4	251
2013-02-16	2	253
2013-02-17	4	257
2013-02-18	7	264
2013-02-19	5	269
2013-02-20	9	278
2013-02-21	8	286
2013-02-22	7	293
2013-02-23	2	295
2013-02-24	1	296
2013-02-25	6	302
2013-02-26	5	307
2013-02-27	7	314
2013-02-28	6	320
2013-03-01	8	328
2013-03-02	1	329
2013-03-04	9	338
2013-03-05	7	345
2013-03-06	7	352
2013-03-07	9	361
2013-03-08	8	369
2013-03-09	3	372
2013-03-11	8	380
2013-03-12	5	385
2013-03-13	6	391
2013-03-14	8	399
2013-03-15	4	403
2013-03-16	1	404
2013-03-17	1	405
2013-03-18	6	411
2013-03-19	4	415

2013-03-20	5	420
2013-03-21	7	427
2013-03-22	8	435
2013-03-24	2	437
2013-03-25	7	444
2013-03-26	7	451
2013-03-27	5	456
2013-03-28	3	459
2013-03-29	6	465
2013-03-30	3	468
2013-03-31	2	470
2013-04-01	7	477
2013-04-02	10	487
2013-04-03	5	492
2013-04-04	6	498
2013-04-05	6	504
2013-04-06	3	507
2013-04-07	3	510
2013-04-08	8	518
2013-04-09	4	522
2013-04-10	8	530
2013-04-11	2	532
2013-04-12	6	538
2013-04-13	4	542
2013-04-14	3	545
2013-04-15	6	551
2013-04-16	9	560
2013-04-17	7	567
2013-04-18	7	574
2013-04-19	9	583
2013-04-20	2	585
2013-04-21	2	587
2013-04-22	8	595
2013-04-23	6	601
2013-04-24	8	609
2013-04-25	10	619
2013-04-26	9	628
2013-04-27	3	631
2013-04-28	4	635

2013-04-29	9	644
2013-04-30	7	651
2013-05-01	10	661
2013-05-02	6	667
2013-05-03	12	679
2013-05-04	1	680
2013-05-05	3	683
2013-05-06	5	688
2013-05-07	8	696
2013-05-08	10	706
2013-05-09	6	712
2013-05-10	8	720
2013-05-11	4	724
2013-05-12	4	728
2013-05-13	12	740
2013-05-14	11	751
2013-05-15	10	761
2013-05-16	10	771
2013-05-17	8	779
2013-05-18	2	781
2013-05-19	2	783
2013-05-20	8	791
2013-05-21	7	798
2013-05-22	8	806
2013-05-23	7	813
2013-05-24	4	817
2013-05-25	3	820
2013-05-26	4	824
2013-05-27	7	831
2013-05-28	9	840
2013-05-29	6	846
2013-05-30	11	857
2013-05-31	8	865
2013-06-01	4	869
2013-06-02	4	873
2013-06-03	12	885
2013-06-04	16	901
2013-06-05	7	908
2013-06-06	5	913

2013-06-07	8	921
2013-06-08	2	923
2013-06-09	1	924
2013-06-10	12	936
2013-06-11	7	943
2013-06-12	9	952
2013-06-13	6	958
2013-06-14	10	968
2013-06-15	5	973
2013-06-16	2	975
2013-06-17	11	986
2013-06-18	5	991
2013-06-19	6	997
2013-06-20	9	1006
2013-06-21	9	1015
2013-06-22	3	1018
2013-06-23	3	1021
2013-06-24	12	1033
2013-06-25	13	1046
2013-06-26	10	1056
2013-06-27	11	1067
2013-06-28	7	1074
2013-06-29	1	1075
2013-06-30	3	1078
2013-07-01	8	1086
2013-07-02	10	1096
2013-07-03	13	1109
2013-07-04	9	1118
2013-07-05	11	1129
2013-07-06	2	1131
2013-07-07	4	1135
2013-07-08	5	1140
2013-07-09	5	1145
2013-07-10	10	1155
2013-07-11	16	1171
2013-07-12	9	1180
2013-07-13	3	1183
2013-07-14	4	1187
2013-07-15	12	1199

2013-07-16	13	1212
2013-07-17	13	1225
2013-07-18	12	1237
2013-07-19	14	1251
2013-07-20	4	1255
2013-07-21	3	1258
2013-07-22	14	1272
2013-07-23	11	1283
2013-07-24	14	1297
2013-07-25	10	1307
2013-07-26	10	1317
2013-07-27	5	1322
2013-07-28	2	1324
2013-07-29	16	1340
2013-07-30	11	1351
2013-07-31	11	1362
2013-08-01	12	1374
2013-08-02	13	1387
2013-08-03	2	1389
2013-08-04	4	1393
2013-08-05	9	1402
2013-08-06	13	1415
2013-08-07	12	1427
2013-08-08	12	1439
2013-08-09	13	1452
2013-08-10	4	1456
2013-08-11	3	1459
2013-08-12	15	1474
2013-08-13	10	1484
2013-08-14	12	1496
2013-08-15	15	1511
2013-08-16	14	1525
2013-08-17	2	1527
2013-08-18	5	1532
2013-08-19	9	1541
2013-08-20	12	1553
2013-08-21	14	1567
2013-08-22	19	1586
2013-08-23	10	1596

2013-08-24	4	1600
2013-08-25	3	1603
2013-08-26	13	1616
2013-08-27	14	1630
2013-08-28	15	1645
2013-08-29	14	1659
2013-08-30	17	1676
2013-08-31	2	1678
2013-09-01	4	1682
2013-09-02	12	1694
2013-09-03	8	1702
2013-09-04	12	1714
2013-09-05	13	1727
2013-09-06	12	1739
2013-09-07	2	1741
2013-09-08	6	1747
2013-09-09	13	1760
2013-09-10	10	1770
2013-09-11	15	1785
2013-09-12	9	1794
2013-09-13	13	1807
2013-09-14	6	1813
2013-09-15	5	1818
2013-09-16	16	1834
2013-09-17	14	1848
2013-09-18	15	1863
2013-09-19	19	1882
2013-09-20	10	1892
2013-09-21	6	1898
2013-09-22	4	1902
2013-09-23	16	1918
2013-09-24	19	1937
2013-09-25	17	1954
2013-09-26	12	1966
2013-09-27	17	1983
2013-09-28	5	1988
2013-09-29	6	1994
2013-09-30	14	2008
2013-10-01	16	2024

2013-10-02	12	2036
2013-10-03	15	2051
2013-10-04	16	2067
2013-10-05	5	2072
2013-10-06	3	2075
2013-10-07	14	2089
2013-10-08	18	2107
2013-10-09	18	2125
2013-10-10	16	2141
2013-10-11	12	2153
2013-10-12	6	2159
2013-10-13	4	2163
2013-10-14	11	2174
2013-10-15	12	2186
2013-10-16	13	2199
2013-10-17	15	2214
2013-10-18	14	2228
2013-10-19	4	2232
2013-10-20	5	2237
2013-10-21	14	2251
2013-10-22	20	2271
2013-10-23	19	2290
2013-10-24	19	2309
2013-10-25	18	2327
2013-10-26	4	2331
2013-10-27	3	2334
2013-10-28	15	2349
2013-10-29	18	2367
2013-10-30	15	2382
2013-10-31	16	2398
2013-11-01	17	2415
2013-11-02	5	2420
2013-11-03	6	2426
2013-11-04	16	2442
2013-11-05	19	2461
2013-11-06	15	2476
2013-11-07	16	2492
2013-11-08	17	2509
2013-11-09	7	2516

2013-11-10	7	2523
2013-11-11	13	2536
2013-11-12	18	2554
2013-11-13	18	2572
2013-11-14	17	2589
2013-11-15	15	2604
2013-11-16	3	2607
2013-11-17	10	2617
2013-11-18	14	2631
2013-11-19	15	2646
2013-11-20	12	2658
2013-11-21	19	2677
2013-11-22	16	2693
2013-11-23	2	2695
2013-11-24	4	2699
2013-11-25	17	2716
2013-11-26	17	2733
2013-11-27	20	2753
2013-11-28	18	2771
2013-11-29	20	2791
2013-11-30	6	2797
2013-12-01	5	2802
2013-12-02	18	2820
2013-12-03	12	2832
2013-12-04	19	2851
2013-12-05	18	2869
2013-12-06	21	2890
2013-12-07	4	2894
2013-12-08	4	2898
2013-12-09	23	2921
2013-12-10	24	2945
2013-12-11	16	2961
2013-12-12	21	2982
2013-12-13	21	3003
2013-12-14	7	3010
2013-12-15	5	3015
2013-12-16	20	3035
2013-12-17	18	3053
2013-12-18	31	3084

2013-12-19	20	3104
2013-12-20	24	3128
2013-12-21	6	3134
2013-12-22	4	3138
2013-12-23	19	3157
2013-12-24	19	3176
2013-12-25	16	3192
2013-12-26	19	3211
2013-12-27	22	3233
2013-12-28	3	3236
2013-12-29	6	3242
2013-12-30	19	3261
2013-12-31	22	3283
2014-01-01	16	3299
2014-01-02	35	3334
2014-01-03	25	3359
2014-01-04	7	3366
2014-01-05	8	3374
2014-01-06	20	3394
2014-01-07	32	3426
2014-01-08	20	3446
2014-01-09	19	3465
2014-01-10	19	3484
2014-01-11	8	3492
2014-01-12	4	3496
2014-01-13	18	3514
2014-01-14	14	3528
2014-01-15	26	3554
2014-01-16	25	3579
2014-01-17	18	3597
2014-01-18	4	3601
2014-01-19	7	3608
2014-01-20	23	3631
2014-01-21	20	3651
2014-01-22	21	3672
2014-01-23	15	3687
2014-01-24	23	3710
2014-01-25	4	3714
2014-01-26	7	3721

2014-01-27	17	3738
2014-01-28	27	3765
2014-01-29	27	3792
2014-01-30	20	3812
2014-01-31	23	3835
2014-02-01	9	3844
2014-02-02	7	3851
2014-02-03	29	3880
2014-02-04	21	3901
2014-02-05	19	3920
2014-02-06	27	3947
2014-02-07	23	3970
2014-02-08	7	3977
2014-02-09	6	3983
2014-02-10	23	4006
2014-02-11	30	4036
2014-02-12	26	4062
2014-02-13	22	4084
2014-02-14	21	4105
2014-02-15	7	4112
2014-02-16	6	4118
2014-02-17	21	4139
2014-02-18	18	4157
2014-02-19	22	4179
2014-02-20	25	4204
2014-02-21	27	4231
2014-02-22	6	4237
2014-02-23	8	4245
2014-02-24	25	4270
2014-02-25	20	4290
2014-02-26	19	4309
2014-02-27	26	4335
2014-02-28	25	4360
2014-03-01	6	4366
2014-03-02	6	4372
2014-03-03	23	4395
2014-03-04	26	4421
2014-03-05	20	4441
2014-03-06	27	4468

2014-03-07	23	4491
2014-03-08	8	4499
2014-03-09	8	4507
2014-03-10	30	4537
2014-03-11	27	4564
2014-03-12	25	4589
2014-03-13	24	4613
2014-03-14	32	4645
2014-03-15	8	4653
2014-03-16	6	4659
2014-03-17	22	4681
2014-03-18	23	4704
2014-03-19	22	4726
2014-03-20	28	4754
2014-03-21	23	4777
2014-03-22	6	4783
2014-03-23	8	4791
2014-03-24	26	4817
2014-03-25	24	4841
2014-03-26	21	4862
2014-03-27	28	4890
2014-03-28	30	4920
2014-03-29	11	4931
2014-03-30	11	4942
2014-03-31	33	4975
2014-04-01	22	4997
2014-04-02	32	5029
2014-04-03	31	5060
2014-04-04	34	5094
2014-04-05	4	5098
2014-04-06	5	5103
2014-04-07	29	5132
2014-04-08	34	5166
2014-04-09	22	5188
2014-04-10	36	5224
2014-04-11	28	5252
2014-04-12	8	5260
2014-04-13	9	5269
2014-04-14	34	5303

2014-04-15	24	5327
2014-04-16	29	5356
2014-04-17	32	5388
2014-04-18	29	5417
2014-04-19	7	5424
2014-04-20	10	5434
2014-04-21	36	5470
2014-04-22	32	5502
2014-04-23	31	5533
2014-04-24	32	5565
2014-04-25	30	5595
2014-04-26	8	5603
2014-04-27	7	5610
2014-04-28	39	5649
2014-04-29	27	5676
2014-04-30	25	5701
2014-05-01	34	5735
2014-05-02	30	5765
2014-05-03	8	5773
2014-05-04	9	5782
2014-05-05	24	5806
2014-05-06	27	5833
2014-05-07	32	5865
2014-05-08	33	5898
2014-05-09	31	5929
2014-05-10	7	5936
2014-05-11	6	5942
2014-05-12	29	5971
2014-05-13	35	6006
2014-05-14	34	6040
2014-05-15	38	6078
2014-05-16	36	6114
2014-05-17	7	6121
2014-05-18	7	6128
2014-05-19	31	6159
2014-05-20	38	6197
2014-05-21	23	6220
2014-05-22	34	6254
2014-05-23	34	6288

2014-05-24	9	6297
2014-05-25	8	6305
2014-05-26	24	6329
2014-05-27	32	6361
2014-05-28	37	6398
2014-05-29	33	6431
2014-05-30	39	6470
2014-05-31	10	6480
2014-06-01	11	6491
2014-06-02	33	6524
2014-06-03	29	6553
2014-06-04	44	6597
2014-06-05	32	6629
2014-06-06	39	6668
2014-06-07	8	6676
2014-06-08	12	6688
2014-06-09	34	6722
2014-06-10	28	6750
2014-06-11	37	6787
2014-06-12	41	6828
2014-06-13	37	6865
2014-06-14	7	6872
2014-06-15	14	6886
2014-06-16	41	6927
2014-06-17	49	6976
2014-06-18	45	7021
2014-06-19	32	7053
2014-06-20	39	7092
2014-06-21	9	7101
2014-06-22	7	7108
2014-06-23	43	7151
2014-06-24	21	7172
2014-06-25	36	7208
2014-06-26	42	7250
2014-06-27	46	7296
2014-06-28	12	7308
2014-06-29	10	7318
2014-06-30	35	7353
2014-07-01	38	7391

2014-07-02	39	7430
2014-07-03	34	7464
2014-07-04	36	7500
2014-07-05	9	7509
2014-07-06	8	7517
2014-07-07	49	7566
2014-07-08	38	7604
2014-07-09	40	7644
2014-07-10	35	7679
2014-07-11	42	7721
2014-07-12	10	7731
2014-07-13	9	7740
2014-07-14	35	7775
2014-07-15	43	7818
2014-07-16	52	7870
2014-07-17	27	7897
2014-07-18	40	7937
2014-07-19	9	7946
2014-07-20	9	7955
2014-07-21	37	7992
2014-07-22	38	8030
2014-07-23	46	8076
2014-07-24	40	8116
2014-07-25	39	8155
2014-07-26	12	8167
2014-07-27	16	8183
2014-07-28	43	8226
2014-07-29	35	8261
2014-07-30	45	8306
2014-07-31	44	8350
2014-08-01	42	8392
2014-08-02	13	8405
2014-08-03	12	8417
2014-08-04	26	8443
2014-08-05	40	8483
2014-08-06	29	8512
2014-08-07	41	8553
2014-08-08	32	8585
2014-08-09	13	8598

2014-08-10	8	8606
2014-08-11	43	8649
2014-08-12	34	8683
2014-08-13	53	8736
2014-08-14	45	8781
2014-08-15	48	8829
2014-08-16	14	8843
2014-08-17	13	8856
2014-08-18	48	8904
2014-08-19	43	8947
2014-08-20	46	8993
2014-08-21	49	9042
2014-08-22	50	9092
2014-08-23	12	9104
2014-08-24	11	9115
2014-08-25	52	9167
2014-08-26	41	9208
2014-08-27	48	9256
2014-08-28	50	9306
2014-08-29	45	9351
2014-08-30	12	9363
2014-08-31	18	9381

C. Weekly Retention Analysis:

- Objective: Analyze the retention of users on a weekly basis after signing up for a product.
- Your Task: Write an SQL query to calculate the weekly retention of users based on their sign-up cohort.

SQL Query:-

WITH signup_cohorts AS (

SELECT

user_id,

```

        YEARWEEK(created_at, 1) AS signup_week
FROM users
WHERE created_at IS NOT NULL
),
user_activity AS (
    SELECT
        user_id,
        YEARWEEK(created_at, 1) AS activity_week
    FROM (
        SELECT user_id, created_at FROM email_events
        UNION ALL
        SELECT user_id, created_at FROM events
    ) all_events
),
cohort_activity AS (
    SELECT
        sc.signup_week,
        ua.activity_week,
        COUNT(DISTINCT ua.user_id) AS active_users
    FROM signup_cohorts sc
    JOIN user_activity ua
    ON sc.user_id = ua.user_id
    GROUP BY sc.signup_week, ua.activity_week
),
retention_summary AS (
    SELECT

```

```

        signup_week,
        activity_week,
        TIMESTAMPDIFF(WEEK, STR_TO_DATE(CONCAT(SUBSTR(signup_week, 1,
4), '-', SUBSTR(signup_week, 5, 2), '-1'), '%X-%V-%w'),
        STR_TO_DATE(CONCAT(SUBSTR(activity_week, 1, 4), '-',
SUBSTR(activity_week, 5, 2), '-1'), '%X-%V-%w')) AS week_number,
        active_users
    FROM cohort_activity
)
SELECT
    signup_week,
    week_number,
    active_users
FROM retention_summary
WHERE week_number >= 0
ORDER BY signup_week, week_number;

```

Output:-

Signup_week	Week_number	Active_users
201301	69	3
201301	70	10
201301	71	10
201301	72	10
201301	73	10
201301	74	10
201301	75	10
201301	76	10
201301	77	10
201301	78	10
201301	79	10
201301	80	10
201301	81	10
201301	82	10

201301	83	10
201301	84	10
201301	85	10
201301	86	10
201302	68	4
201302	69	13
201302	70	13
201302	71	13
201302	72	13
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201303	75	19
201303	76	19
201303	77	19
201303	78	19
201303	79	19
201303	80	19
201303	81	19
201303	82	19
201303	83	19

201303	84	19
201304	66	10
201304	67	22
201304	68	22
201304	69	22
201304	70	22
201304	71	22
201304	72	22
201304	73	22
201304	74	22
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201304	78	22
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201304	81	22
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201305	76	17
201305	77	17
201305	78	17
201305	79	17
201305	80	17
201305	81	17
201305	82	17
201306	64	10
201306	65	22

201306	66	22
201306	67	22
201306	68	22
201306	69	22
201306	70	22
201306	71	22
201306	72	22
201306	73	22
201306	74	22
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201307	76	18
201307	77	18
201307	78	18
201307	79	18
201307	80	18
201308	62	9
201308	63	20
201308	64	20
201308	65	20
201308	66	20

201308	67	20
201308	68	20
201308	69	20
201308	70	20
201308	71	20
201308	72	20
201308	73	20
201308	74	20
201308	75	20
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201309	78	12
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201310	62	21
201310	63	21
201310	64	21
201310	65	21
201310	66	21
201310	67	21

201310	68	21
201310	69	21
201310	70	21
201310	71	21
201310	72	21
201310	73	21
201310	74	21
201310	75	21
201310	76	21
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201312	60	15
201312	61	15
201312	62	15
201312	63	15
201312	64	15
201312	65	15
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201312	67	15
201312	68	15

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201312	70	15
201312	71	15
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201312	74	15
201312	75	15
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201314	63	19
201314	64	19
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201314	67	19
201314	68	19
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201314	71	19
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201316	62	19
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201316	68	19
201316	69	19
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201318	63	30
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201318	65	30
201318	66	30
201318	67	30
201318	68	30
201318	69	30
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201320	63	25
201320	64	25
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201320	66	25
201320	67	25
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201323	58	23
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201323	62	23
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201327	48	21
201327	49	21
201327	50	21
201327	51	21
201327	52	21
201327	53	21
201327	54	21
201327	55	21
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201327	58	21
201327	59	21
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201329	53	33
201329	54	33
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201329	57	33

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201330	45	28
201330	46	28
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201330	53	28
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201330	55	28
201330	56	28
201330	57	28
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201331	44	33
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201331	49	33
201331	50	33
201331	51	33
201331	52	33
201331	53	33
201331	54	33
201331	55	33
201331	56	33
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201333	51	32
201333	52	32
201333	53	32
201333	54	32
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201346	41	46
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201348	28	48
Signup_week	Week_number	Active_users
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201348	38	48
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201349	27	45

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201351	20	45
201351	21	45
201351	22	45
201351	23	45
201351	24	45
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201401	21	53
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201401	24	53
201401	25	53
201401	26	53
201401	27	53
201401	28	53
201401	29	53

201401	30	53
201401	31	53
201401	32	53
201401	33	53
201401	34	53
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201403	15	27
201403	16	57
201403	17	57
201403	18	57
201403	19	57
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201403	32	57
201404	14	19
201404	15	44
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201404	18	44
201404	19	44
201404	20	44
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201404	26	44
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201404	28	44
201404	29	44
201404	30	44
201404	31	44
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201405	16	67
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201405	26	67
201405	27	67
201405	28	67
201405	29	67
201405	30	67
201406	12	35

201406	13	66
201406	14	66
201406	15	66
201406	16	66
201406	17	66
201406	18	66
201406	19	66
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201406	21	66
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201406	24	66
201406	25	66
201406	26	66
201406	27	66
201406	28	66
201406	29	66
201407	11	24
201407	12	62
201407	13	62
201407	14	62
201407	15	62
201407	16	62
201407	17	62
201407	18	62
201407	19	62
201407	20	62
201407	21	62
201407	22	62
201407	23	62
201407	24	62
201407	25	62
201407	26	62
201407	27	62
201407	28	62
201408	10	27
201408	11	60
201408	12	60
201408	13	60

201408	14	60
201408	15	60
201408	16	60
201408	17	60
201408	18	60
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201408	22	60
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201408	24	60
201408	25	60
201408	26	60
201408	27	60
201409	9	26
201409	10	57
201409	11	56
201409	12	56
201409	13	56
201409	14	56
201409	15	56
201409	16	56
201409	17	56
201409	18	56
201409	19	56
201409	20	56
201409	21	56
201409	22	56
201409	23	56
201409	24	56
201409	25	56
201409	26	56
201410	8	27
201410	9	64
201410	10	64
201410	11	64
201410	12	63
201410	13	63
201410	14	63

201410	15	63
201410	16	63
201410	17	63
201410	18	63
201410	19	63
201410	20	63
201410	21	63
201410	22	63
201410	23	63
201410	24	63
201410	25	63
201411	7	32
201411	8	75
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201411	10	75
201411	11	75
201411	12	75
201411	13	74
201411	14	74
201411	15	74
201411	16	74
201411	17	74
201411	18	74
201411	19	74
201411	20	74
201411	21	74
201411	22	74
201411	23	74
201411	24	74
201412	6	35
201412	7	65
201412	8	66
201412	9	64
201412	10	63
201412	11	63
201412	12	63
201412	13	63
201412	14	63
201412	15	63

201412	16	63
201412	17	63
201412	18	63
201412	19	63
201412	20	63
201412	21	63
201412	22	63
201412	23	63
201413	5	35
201413	6	73
201413	7	72
201413	8	71
201413	9	70
201413	10	70
201413	11	70
201413	12	70
201413	13	70
201413	14	69
201413	15	69
201413	16	69
201413	17	69
201413	18	69
201413	19	69
201413	20	69
201413	21	69
201413	22	69
201414	4	50
201414	5	78
201414	6	77
201414	7	75
201414	8	74
201414	9	75
201414	10	75
201414	11	75
201414	12	74
201414	13	74
201414	14	74
201414	15	74
201414	16	74

201414	17	74
201414	18	74
201414	19	74
201414	20	74
201414	21	74
201415	3	58
201415	4	97
201415	5	97
201415	6	97
201415	7	95
201415	8	93
201415	9	92
201415	10	92
201415	11	92
201415	12	92
201415	13	92
201415	14	92
201415	15	92
201415	16	92
201415	17	92
201415	18	92
201415	19	92
201415	20	92
201416	2	64
201416	3	92
201416	4	80
201416	5	73
201416	6	67
201416	7	64
201416	8	61
201416	9	61
201416	10	61
201416	11	61
201416	12	61
201416	13	61
201416	14	61
201416	15	61
201416	16	61
201416	17	61

201416	18	61
201416	19	61
201417	1	75
201417	2	103
201417	3	92
201417	4	74
201417	5	69
201417	6	65
201417	7	65
201417	8	63
201417	9	63
201417	10	64
201417	11	63
201417	12	63
201417	13	63
201417	14	63
201417	15	63
201417	16	63
201417	17	63
201417	18	63
201418	0	172
201418	1	146
201418	2	103
201418	3	84
201418	4	76
201418	5	77
201418	6	75
201418	7	68
201418	8	68
201418	9	68
201418	10	68
201418	11	68
201418	12	68
201418	13	68
201418	14	68
201418	15	68
201418	16	68
201418	17	68
201419	0	160

201419	1	130
201419	2	102
201419	3	85
201419	4	77
201419	5	73
201419	6	68
201419	7	66
201419	8	65
201419	9	65
201419	10	65
201419	11	65
201419	12	65
201419	13	65
201419	14	65
201419	15	65
201419	16	65
201420	0	186
201420	1	164
201420	2	118
201420	3	98
201420	4	82
201420	5	75
201420	6	73
201420	7	73
201420	8	71
201420	9	69
201420	10	68
201420	11	68
201420	12	68
201420	13	68
201420	14	68
201420	15	68
201421	0	177
201421	1	150
201421	2	125
201421	3	105
201421	4	96
201421	5	89
201421	6	86

201421	7	84
201421	8	83
201421	9	82
201421	10	82
201421	11	82
201421	12	82
201421	13	82
201421	14	82
201422	0	186
201422	1	160
201422	2	126
201422	3	111
201422	4	99
201422	5	95
201422	6	94
201422	7	95
201422	8	91
201422	9	91
201422	10	91
201422	11	91
201422	12	91
201422	13	91
201423	0	197
201423	1	171
201423	2	129
201423	3	114
201423	4	104
201423	5	98
201423	6	94
201423	7	92
201423	8	91
201423	9	90
201423	10	89
201423	11	89
201423	12	89
201424	0	198
201424	1	176
201424	2	140
201424	3	121

201424	4	113
201424	5	112
201424	6	107
201424	7	105
201424	8	103
201424	9	103
201424	10	102
201424	11	101
201425	0	222
201425	1	175
201425	2	133
201425	3	115
201425	4	107
201425	5	103
201425	6	101
201425	7	99
201425	8	96
201425	9	96
201425	10	96
201426	0	210
201426	1	190
201426	2	149
201426	3	128
201426	4	117
201426	5	108
201426	6	107
201426	7	101
201426	8	100
201426	9	100
201427	0	199
201427	1	166
201427	2	131
201427	3	118
201427	4	107
201427	5	103
201427	6	99
201427	7	97
201427	8	95
201428	0	223

201428	1	192
201428	2	149
201428	3	137
201428	4	121
201428	5	118
201428	6	115
201428	7	111
201429	0	215
201429	1	178
201429	2	140
201429	3	120
201429	4	109
201429	5	102
201429	6	98
201430	0	228
201430	1	204
201430	2	151
201430	3	140
201430	4	128
201430	5	117
201431	0	234
201431	1	200
201431	2	148
201431	3	128
201431	4	115
201432	0	189
201432	1	172
201432	2	136
201432	3	130
201433	0	250
201433	1	211
201433	2	150
201434	0	259
201434	1	214
201435	0	266

D. Weekly Engagement Per Device:

SQL Query:-

```
WITH weekly_user_activity AS (  
    SELECT  
        e.device,  
        DATE_FORMAT(e.created_at, '%Y-%u') AS week, -- Extract year-week (e.g.,  
        2014-18 for the 18th week of 2014)  
        COUNT(DISTINCT e.user_id) AS active_users  
    FROM  
        events e  
    WHERE  
        e.created_at BETWEEN '2014-05-01' AND '2014-08-31' -- Filter by the  
        specified date range  
    GROUP BY  
        e.device,  
        DATE_FORMAT(e.created_at, '%Y-%u')  
)  
SELECT  
    device,  
    week,  
    active_users  
FROM  
    weekly_user_activity  
ORDER BY  
    week DESC, device ASC;
```

Output:-

Device	Week	Active_users
acer aspire desktop	2014-35	29
acer aspire notebook	2014-35	62
amazon fire phone	2014-35	11
asus chromebook	2014-35	47
dell inspiron desktop	2014-35	47
dell inspiron notebook	2014-35	99
hp pavilion desktop	2014-35	36
htc one	2014-35	25
ipad air	2014-35	36
ipad mini	2014-35	24
iphone 4s	2014-35	47
iphone 5	2014-35	99
iphone 5s	2014-35	68
kindle fire	2014-35	13
lenovo thinkpad	2014-35	181
mac mini	2014-35	29
macbook air	2014-35	131
macbook pro	2014-35	282
nexus 10	2014-35	23
nexus 5	2014-35	66
nexus 7	2014-35	31
nokia lumia 635	2014-35	16
samsung galaxy tablet	2014-35	13
samsung galaxy note	2014-35	13
samsung galaxy s4	2014-35	87
windows surface	2014-35	18
acer aspire desktop	2014-34	36
acer aspire notebook	2014-34	45
amazon fire phone	2014-34	14
asus chromebook	2014-34	48
dell inspiron desktop	2014-34	35
dell inspiron notebook	2014-34	111
hp pavilion desktop	2014-34	34
htc one	2014-34	19
ipad air	2014-34	39

ipad mini	2014-34	27
iphone 4s	2014-34	34
iphone 5	2014-34	105
iphone 5s	2014-34	69
kindle fire	2014-34	14
lenovo thinkpad	2014-34	190
mac mini	2014-34	32
macbook air	2014-34	134
macbook pro	2014-34	308
nexus 10	2014-34	22
nexus 5	2014-34	71
nexus 7	2014-34	29
nokia lumia 635	2014-34	27
samsung galaxy tablet	2014-34	12
samsung galaxy note	2014-34	13
samsung galaxy s4	2014-34	76
windows surface	2014-34	14
acer aspire desktop	2014-33	37
acer aspire notebook	2014-33	56
amazon fire phone	2014-33	12
asus chromebook	2014-33	61
dell inspiron desktop	2014-33	57
dell inspiron notebook	2014-33	101
hp pavilion desktop	2014-33	51
htc one	2014-33	18
ipad air	2014-33	45
ipad mini	2014-33	31
iphone 4s	2014-33	35
iphone 5	2014-33	119
iphone 5s	2014-33	65
kindle fire	2014-33	12
lenovo thinkpad	2014-33	177
mac mini	2014-33	21
macbook air	2014-33	124
macbook pro	2014-33	307
nexus 10	2014-33	31
nexus 5	2014-33	66
nexus 7	2014-33	24
nokia lumia 635	2014-33	26

samsung galaxy tablet	2014-33	6
samsung galaxy note	2014-33	12
samsung galaxy s4	2014-33	85
windows surface	2014-33	10
acer aspire desktop	2014-32	31
acer aspire notebook	2014-32	56
amazon fire phone	2014-32	14
asus chromebook	2014-32	59
dell inspiron desktop	2014-32	42
dell inspiron notebook	2014-32	111
hp pavilion desktop	2014-32	52
htc one	2014-32	13
ipad air	2014-32	53
ipad mini	2014-32	23
iphone 4s	2014-32	52
iphone 5	2014-32	133
iphone 5s	2014-32	71
kindle fire	2014-32	14
lenovo thinkpad	2014-32	196
mac mini	2014-32	24
macbook air	2014-32	143
macbook pro	2014-32	317
nexus 10	2014-32	19
nexus 5	2014-32	65
nexus 7	2014-32	39
nokia lumia 635	2014-32	30
samsung galaxy tablet	2014-32	7
samsung galaxy note	2014-32	14
samsung galaxy s4	2014-32	99
windows surface	2014-32	18
acer aspire desktop	2014-31	32
acer aspire notebook	2014-31	62
amazon fire phone	2014-31	12
asus chromebook	2014-31	56
dell inspiron desktop	2014-31	53
dell inspiron notebook	2014-31	125
hp pavilion desktop	2014-31	39
htc one	2014-31	30
ipad air	2014-31	70

ipad mini	2014-31	34
iphone 4s	2014-31	63
iphone 5	2014-31	151
iphone 5s	2014-31	100
kindle fire	2014-31	24
lenovo thinkpad	2014-31	208
mac mini	2014-31	23
macbook air	2014-31	156
macbook pro	2014-31	317
nexus 10	2014-31	35
nexus 5	2014-31	81
nexus 7	2014-31	60
nokia lumia 635	2014-31	33
samsung galaxy tablet	2014-31	9
samsung galaxy note	2014-31	15
samsung galaxy s4	2014-31	104
windows surface	2014-31	18
acer aspire desktop	2014-30	29
acer aspire notebook	2014-30	52
amazon fire phone	2014-30	12
asus chromebook	2014-30	47
dell inspiron desktop	2014-30	52
dell inspiron notebook	2014-30	114
hp pavilion desktop	2014-30	57
htc one	2014-30	32
ipad air	2014-30	50
ipad mini	2014-30	36
iphone 4s	2014-30	61
iphone 5	2014-30	147
iphone 5s	2014-30	92
kindle fire	2014-30	36
lenovo thinkpad	2014-30	209
mac mini	2014-30	28
macbook air	2014-30	146
macbook pro	2014-30	291
nexus 10	2014-30	25
nexus 5	2014-30	81
nexus 7	2014-30	43
nokia lumia 635	2014-30	42

samsung galaxy tablet	2014-30	13
samsung galaxy note	2014-30	17
samsung galaxy s4	2014-30	117
windows surface	2014-30	28
acer aspire desktop	2014-29	27
acer aspire notebook	2014-29	50
amazon fire phone	2014-29	6
asus chromebook	2014-29	51
dell inspiron desktop	2014-29	55
dell inspiron notebook	2014-29	100
hp pavilion desktop	2014-29	55
htc one	2014-29	26
ipad air	2014-29	55
ipad mini	2014-29	34
iphone 4s	2014-29	58
iphone 5	2014-29	148
iphone 5s	2014-29	93
kindle fire	2014-29	29
lenovo thinkpad	2014-29	220
mac mini	2014-29	28
macbook air	2014-29	145
macbook pro	2014-29	295
nexus 10	2014-29	28
nexus 5	2014-29	83
nexus 7	2014-29	39
nokia lumia 635	2014-29	34
samsung galaxy tablet	2014-29	9
samsung galaxy note	2014-29	10
samsung galaxy s4	2014-29	120
windows surface	2014-29	33
acer aspire desktop	2014-28	29
acer aspire notebook	2014-28	47
amazon fire phone	2014-28	10
asus chromebook	2014-28	52
dell inspiron desktop	2014-28	52
dell inspiron notebook	2014-28	91
hp pavilion desktop	2014-28	56
htc one	2014-28	28
ipad air	2014-28	57

ipad mini	2014-28	35
iphone 4s	2014-28	68
iphone 5	2014-28	159
iphone 5s	2014-28	79
kindle fire	2014-28	25
lenovo thinkpad	2014-28	195
mac mini	2014-28	15
macbook air	2014-28	140
macbook pro	2014-28	301
nexus 10	2014-28	38
nexus 5	2014-28	83
nexus 7	2014-28	41
nokia lumia 635	2014-28	31
samsung galaxy tablet	2014-28	15
samsung galaxy note	2014-28	14
samsung galaxy s4	2014-28	119
windows surface	2014-28	31
acer aspire desktop	2014-27	28
acer aspire notebook	2014-27	35
amazon fire phone	2014-27	13
asus chromebook	2014-27	47
dell inspiron desktop	2014-27	59
dell inspiron notebook	2014-27	90
hp pavilion desktop	2014-27	47
htc one	2014-27	23
ipad air	2014-27	55
ipad mini	2014-27	41
iphone 4s	2014-27	49
iphone 5	2014-27	150
iphone 5s	2014-27	92
kindle fire	2014-27	26
lenovo thinkpad	2014-27	188
mac mini	2014-27	11
macbook air	2014-27	134
macbook pro	2014-27	259
nexus 10	2014-27	29
nexus 5	2014-27	86
nexus 7	2014-27	45
nokia lumia 635	2014-27	41

samsung galaxy tablet	2014-27	12
samsung galaxy note	2014-27	10
samsung galaxy s4	2014-27	114
windows surface	2014-27	22
acer aspire desktop	2014-26	29
acer aspire notebook	2014-26	44
amazon fire phone	2014-26	12
asus chromebook	2014-26	40
dell inspiron desktop	2014-26	53
dell inspiron notebook	2014-26	108
hp pavilion desktop	2014-26	50
htc one	2014-26	20
ipad air	2014-26	57
ipad mini	2014-26	31
iphone 4s	2014-26	39
iphone 5	2014-26	134
iphone 5s	2014-26	80
kindle fire	2014-26	24
lenovo thinkpad	2014-26	196
mac mini	2014-26	22
macbook air	2014-26	119
macbook pro	2014-26	276
nexus 10	2014-26	30
nexus 5	2014-26	90
nexus 7	2014-26	49
nokia lumia 635	2014-26	37
samsung galaxy tablet	2014-26	12
samsung galaxy note	2014-26	14
samsung galaxy s4	2014-26	100
windows surface	2014-26	19
acer aspire desktop	2014-25	23
acer aspire notebook	2014-25	42
amazon fire phone	2014-25	11
asus chromebook	2014-25	41
dell inspiron desktop	2014-25	57
dell inspiron notebook	2014-25	102
hp pavilion desktop	2014-25	56
htc one	2014-25	19
ipad air	2014-25	58

ipad mini	2014-25	38
iphone 4s	2014-25	52
iphone 5	2014-25	143
iphone 5s	2014-25	78
kindle fire	2014-25	25
lenovo thinkpad	2014-25	164
mac mini	2014-25	29
macbook air	2014-25	149
macbook pro	2014-25	251
nexus 10	2014-25	38
nexus 5	2014-25	85
nexus 7	2014-25	47
nokia lumia 635	2014-25	32
samsung galaxy tablet	2014-25	11
samsung galaxy note	2014-25	19
samsung galaxy s4	2014-25	102
windows surface	2014-25	21
acer aspire desktop	2014-24	21
acer aspire notebook	2014-24	43
amazon fire phone	2014-24	16
asus chromebook	2014-24	48
dell inspiron desktop	2014-24	53
dell inspiron notebook	2014-24	100
hp pavilion desktop	2014-24	55
htc one	2014-24	21
ipad air	2014-24	42
ipad mini	2014-24	32
iphone 4s	2014-24	52
iphone 5	2014-24	151
iphone 5s	2014-24	80
kindle fire	2014-24	25
lenovo thinkpad	2014-24	176
mac mini	2014-24	17
macbook air	2014-24	122
macbook pro	2014-24	259
nexus 10	2014-24	43
nexus 5	2014-24	87
nexus 7	2014-24	37
nokia lumia 635	2014-24	31

samsung galaxy tablet	2014-24	14
samsung galaxy note	2014-24	12
samsung galaxy s4	2014-24	95
windows surface	2014-24	16
acer aspire desktop	2014-23	25
acer aspire notebook	2014-23	39
amazon fire phone	2014-23	5
asus chromebook	2014-23	51
dell inspiron desktop	2014-23	53
dell inspiron notebook	2014-23	91
hp pavilion desktop	2014-23	38
htc one	2014-23	24
ipad air	2014-23	57
ipad mini	2014-23	32
iphone 4s	2014-23	41
iphone 5	2014-23	122
iphone 5s	2014-23	71
kindle fire	2014-23	21
lenovo thinkpad	2014-23	170
mac mini	2014-23	24
macbook air	2014-23	145
macbook pro	2014-23	254
nexus 10	2014-23	28
nexus 5	2014-23	95
nexus 7	2014-23	44
nokia lumia 635	2014-23	25
samsung galaxy tablet	2014-23	11
samsung galaxy note	2014-23	19
samsung galaxy s4	2014-23	103
windows surface	2014-23	15
acer aspire desktop	2014-22	28
acer aspire notebook	2014-22	47
amazon fire phone	2014-22	4
asus chromebook	2014-22	38
dell inspiron desktop	2014-22	41
dell inspiron notebook	2014-22	81
hp pavilion desktop	2014-22	42
htc one	2014-22	20
ipad air	2014-22	51

ipad mini	2014-22	25
iphone 4s	2014-22	46
iphone 5	2014-22	136
iphone 5s	2014-22	71
kindle fire	2014-22	30
lenovo thinkpad	2014-22	164
mac mini	2014-22	18
macbook air	2014-22	107
macbook pro	2014-22	244
nexus 10	2014-22	24
nexus 5	2014-22	94
nexus 7	2014-22	29
nokia lumia 635	2014-22	25
samsung galaxy tablet	2014-22	6
samsung galaxy note	2014-22	20
samsung galaxy s4	2014-22	84
windows surface	2014-22	17
acer aspire desktop	2014-21	23
acer aspire notebook	2014-21	40
amazon fire phone	2014-21	10
asus chromebook	2014-21	39
dell inspiron desktop	2014-21	52
dell inspiron notebook	2014-21	84
hp pavilion desktop	2014-21	31
htc one	2014-21	27
ipad air	2014-21	54
ipad mini	2014-21	32
iphone 4s	2014-21	56
iphone 5	2014-21	128
iphone 5s	2014-21	75
kindle fire	2014-21	22
lenovo thinkpad	2014-21	177
mac mini	2014-21	25
macbook air	2014-21	119
macbook pro	2014-21	256
nexus 10	2014-21	23
nexus 5	2014-21	99
nexus 7	2014-21	31
nokia lumia 635	2014-21	21

samsung galaxy tablet	2014-21	9
samsung galaxy note	2014-21	18
samsung galaxy s4	2014-21	92
windows surface	2014-21	19
acer aspire desktop	2014-20	22
acer aspire notebook	2014-20	40
amazon fire phone	2014-20	12
asus chromebook	2014-20	26
dell inspiron desktop	2014-20	36
dell inspiron notebook	2014-20	82
hp pavilion desktop	2014-20	40
htc one	2014-20	32
ipad air	2014-20	53
ipad mini	2014-20	37
iphone 4s	2014-20	40
iphone 5	2014-20	113
iphone 5s	2014-20	77
kindle fire	2014-20	20
lenovo thinkpad	2014-20	176
mac mini	2014-20	19
macbook air	2014-20	110
macbook pro	2014-20	261
nexus 10	2014-20	25
nexus 5	2014-20	84
nexus 7	2014-20	41
nokia lumia 635	2014-20	22
samsung galaxy tablet	2014-20	6
samsung galaxy note	2014-20	11
samsung galaxy s4	2014-20	90
windows surface	2014-20	15
acer aspire desktop	2014-19	26
acer aspire notebook	2014-19	34
amazon fire phone	2014-19	9
asus chromebook	2014-19	42
dell inspiron desktop	2014-19	58
dell inspiron notebook	2014-19	78
hp pavilion desktop	2014-19	37
htc one	2014-19	19
ipad air	2014-19	52

ipad mini	2014-19	29
iphone 4s	2014-19	47
iphone 5	2014-19	114
iphone 5s	2014-19	70
kindle fire	2014-19	26
lenovo thinkpad	2014-19	155
mac mini	2014-19	12
macbook air	2014-19	119
macbook pro	2014-19	248
nexus 10	2014-19	30
nexus 5	2014-19	73
nexus 7	2014-19	29
nokia lumia 635	2014-19	34
samsung galaxy tablet	2014-19	11
samsung galaxy note	2014-19	15
samsung galaxy s4	2014-19	80
windows surface	2014-19	10
acer aspire desktop	2014-18	10
acer aspire notebook	2014-18	21
amazon fire phone	2014-18	4
asus chromebook	2014-18	23
dell inspiron desktop	2014-18	21
dell inspiron notebook	2014-18	49
hp pavilion desktop	2014-18	15
htc one	2014-18	16
ipad air	2014-18	30
ipad mini	2014-18	21
iphone 4s	2014-18	21
iphone 5	2014-18	70
iphone 5s	2014-18	45
kindle fire	2014-18	6
lenovo thinkpad	2014-18	90
mac mini	2014-18	8
macbook air	2014-18	57
macbook pro	2014-18	154
nexus 10	2014-18	16
nexus 5	2014-18	43
nexus 7	2014-18	20
nokia lumia 635	2014-18	19

samsung galaxy tablet	2014-18	8
samsung galaxy note	2014-18	7
samsung galaxy s4	2014-18	56
windows surface	2014-18	10

E. Email Engagement Analysis:

SQL Query:-

WITH email_metrics AS (

SELECT

ee.action,

COUNT(*) AS total_actions, -- Total number of actions performed

COUNT(DISTINCT ee.user_id) AS unique_users, -- Number of distinct users performing the actions

ee.user_type

FROM

email_events ee

GROUP BY

ee.action, ee.user_type

),

email_summary AS (

SELECT

SUM(total_actions) AS total_actions_overall,

SUM(unique_users) AS unique_users_overall

FROM

email_metrics

```

)
SELECT
    em.action,
    em.user_type,
    em.total_actions,
    em.unique_users,
    (em.total_actions / es.total_actions_overall) * 100 AS action_percentage,
    (em.unique_users / es.unique_users_overall) * 100 AS user_percentage
FROM
    email_metrics em
CROSS JOIN
    email_summary es
ORDER BY
    em.action, em.user_type;

```

Output:-

Action	User_type	Total_actions	Unique_users	Action_percentage	User_percentage
email_clickthrough	1	2758	1529	3.0513	8.0609
email_clickthrough	2	2521	1529	2.7891	8.0609
email_clickthrough	3	3731	2219	4.1277	11.6987
email_open	1	6511	1717	7.2033	9.0521
email_open	2	5562	1701	6.1534	8.9677
email_open	3	8386	2509	9.2777	13.2275

sent_reengagement_email	1	892	892	0.9868	4.7027
sent_reengagement_email	2	1071	1071	1.1849	5.6464
sent_reengagement_email	3	1690	1690	1.8697	8.9097
sent_weekly_digest	1	18412	1217	20.3697	6.4161
sent_weekly_digest	2	15232	1098	16.8516	5.7887
sent_weekly_digest	3	23623	1796	26.1348	9.4686