Project

High Court Pending & Case-Type Study

High Court Pending & Case-Type Study

Objectives

- Study how cases are handled in different High Courts.
- Find the **reasons behind case backlogs** in our country.
- Compare **instituted vs disposed** cases to check efficiency.
- Identify which **courts and case types** have the most pending cases.
- Calculate a **backlog ratio** to understand long-pending cases.

Goal

- To understand how efficiently Indian High Courts are functioning.
- To find ways to improve the speed and reduce the number of pending cases in the judicial system.

You first need to create a database named HighCourtDB1 in SQL Server. Inside it, create one table: HighCourtCases with all the columns from the dataset.

```
1  ∨ create database HighCourtDB1;
2      use HighCourtDB1;
3
4      select * from HighCourtCases;
```

110 % ▼ ✓ No issues found   Ln: 4   Ch: 30   TABS   CRLI

Results | Messages

	Case_id	Country	CalendarDay	HighCourtName	HighCourtBench	CourtCaseType	CasesInstitutedLastMonth	CasesDisposedLastMonth	PendingCasesLessThan1Yr	PendingCases1To3Yr	PendingCases3To5Yr	PendingCases
1	1	India	2025-09-16	Allahabad High Court	Allahabad Bench	Civil	12572	10968	79560	60715	38570	109634
2	2	India	2025-09-16	Allahabad High Court	Allahabad Bench	Criminal	15757	13058	104582	72103	30997	102411
3	3	India	2025-09-16	Allahabad High Court	Allahabad High Court Lucknow Bench	Civil	3880	2676	27925	19804	12755	29386
4	4	India	2025-09-16	Allahabad High Court	Allahabad High Court Lucknow Bench	Criminal	4461	3056	26663	14070	4878	15082
5	5	India	2025-09-16	Bombay High Court	Bench at Aurangabad	Civil	2077	45515	28803	20862	8715	28651
6	6	India	2025-09-16	Bombay High Court	Bench at Aurangabad	Criminal	1615	12898	18954	9557	6386	17133
7	7	India	2025-09-16	Bombay High Court	Bench at Nagpur	Civil	2220	1227	19928	14328	6120	12653
8	8	India	2025-09-16	Bombay High Court	Bench at Nagpur	Criminal	713	781	6548	3676	1437	2259
9	9	India	2025-09-16	Bombay High Court	Bombay High Court,Bench at Kolhapur	Civil	247	206	8421	7034	3070	10117
10	10	India	2025-09-16	Bombay High Court	Bombay High Court,Bench at Kolhapur	Criminal	151	89	2874	1687	944	2836
11	11	India	2025-09-16	Bombay High Court	High Court of Bombay at Goa	Civil	84	101	1156	1048	236	1803
12	12	India	2025-09-16	Bombay High Court	High Court of Bombay at Goa	Criminal	56	72	187	140	52	238
13	13	India	2025-09-16	Bombay High Court	Principal Bench,Appellate Side	Civil	2988	2476	33877	31093	19201	49579
14	14	India	2025-09-16	Bombay High Court	Principal Bench,Appellate Side	Criminal	1061	849	10551	5049	2671	5751
15	15	India	2025-09-16	Bombay High Court	Principal Bench,Original Side	Civil	2815	1735	31471	22347	11364	34661
16	16	India	2025-09-16	Bombay High Court	Principal Bench,Original Side	Criminal	0	0	0	0	0	0
17	17	India	2025-09-16	Bombay High Court	Special Court (TORTS) Bombay	Civil	8	7	33	4	1	4
18	18	India	2025-09-16	Bombay High Court	Special Court (TORTS) Bombay	Criminal	0	0	0	0	0	0
19	19	India	2025-09-16	Calcutta High Court	Circuit Bench At Jalpaiguri	Civil	146	89	1931	700	208	38
20	20	India	2025-09-16	Calcutta High Court	Circuit Bench At Jalpaiguri	Criminal	96	70	720	183	46	13
21	21	India	2025-09-16	Calcutta High Court	Circuit Bench At Port Blair	Civil	67	39	338	82	30	14
22	22	India	2025-09-16	Calcutta High Court	Circuit Bench At Port Blair	Criminal	6	6	55	6	5	4
23	23	India	2025-09-16	Calcutta High Court	Principal Bench, Original Side	Civil	136	191	4097	2795	1129	2252
24	24	India	2025-09-16	Calcutta High Court	Principal Bench, Original Side	Criminal	0	0	0	0	0	0
25	25	India	2025-09-16	Calcutta High Court	Principal Bench,Appellate Side	Civil	3115	4962	32767	21405	12253	25832
26	26	India	2025-09-16	Calcutta High Court	Principal Bench,Appellate Side	Criminal	858	1081	8125	4580	1060	5869
27	27	India	2025-09-16	Gauhati High Court	Aizawl Bench	Civil	80	19	460	104	63	83
28	28	India	2025-09-16	Gauhati High Court	Aizawl Bench	Criminal	26	20	167	41	15	4
29	29	India	2025-09-16	Gauhati High Court	Itanagar Bench	Civil	68	7	924	611	147	249
30	30	India	2025-09-16	Gauhati High Court	Itanagar Bench	Criminal	40	9	467	190	37	57
31	31	India	2025-09-16	Gauhati High Court	Kohima Bench	Civil	72	79	505	172	61	494
32	32	India	2025-09-16	Gauhati High Court	Kohima Bench	Criminal	26	15	80	25	15	59

Find the top 5 benches with the highest number of criminal cases instituted last month.

```sql
   7    -- Top 5 benches: criminal cases instituted last month
   8  ∨ SELECT TOP 5
   9      HighCourtName,
  10      HighCourtBench,
  11      SUM(CasesInstitutedLastMonth) AS CriminalInstitutedLastMonth
  12      FROM highCourtCases
  13      WHERE CourtCaseType = 'Criminal'
  14      GROUP BY HighCourtName, HighCourtBench
  15      ORDER BY CriminalInstitutedLastMonth DESC;
```

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⊞ Results   📄 Messages

	HighCourtName	HighCourtBench	CriminalInstitutedLastMonth
1	Allahabad High Court	Allahabad Bench	15757
2	Patna High Court	Principal Bench Patna	10138
3	High Court of Punjab and Haryana	Principal Bench Punjab	9339
4	Madras High Court	Principal Bench Tamilnadu	5128
5	High Court of Rajasthan	Principal Seat Jodhpur	4623

Show the High Courts where pending cases between 1–3 years exceed 70,000.

```sql
1    -- High Courts with 1-3 year pending > 70,000
2    SELECT
3    HighCourtName,
4    SUM(PendingCases1To3Yr) AS Pending_1_3_Yr
5    FROM highCourtCases
6    GROUP BY HighCourtName
7    HAVING SUM(PendingCases1To3Yr) > 70000;
8
```

123 %   ✓ No issues found

⊞ Results   📄 Messages

	HighCourtName	Pending_1_3_Yr
1	Allahabad High Court	166692
2	Bombay High Court	116825
3	High Court of Karnataka	82878
4	High Court of Madhya Pradesh	76720
5	High Court of Rajasthan	131280
6	Madras High Court	110001

List the case types with zero reference cases.

```sql
--Case types with zero reference cases
SELECT
HighCourtName,
HighCourtBench,
CourtCaseType
FROM highCourtCases
GROUP BY HighCourtName, HighCourtBench, CourtCaseType
HAVING SUM(ReferenceCases) = 0;
```
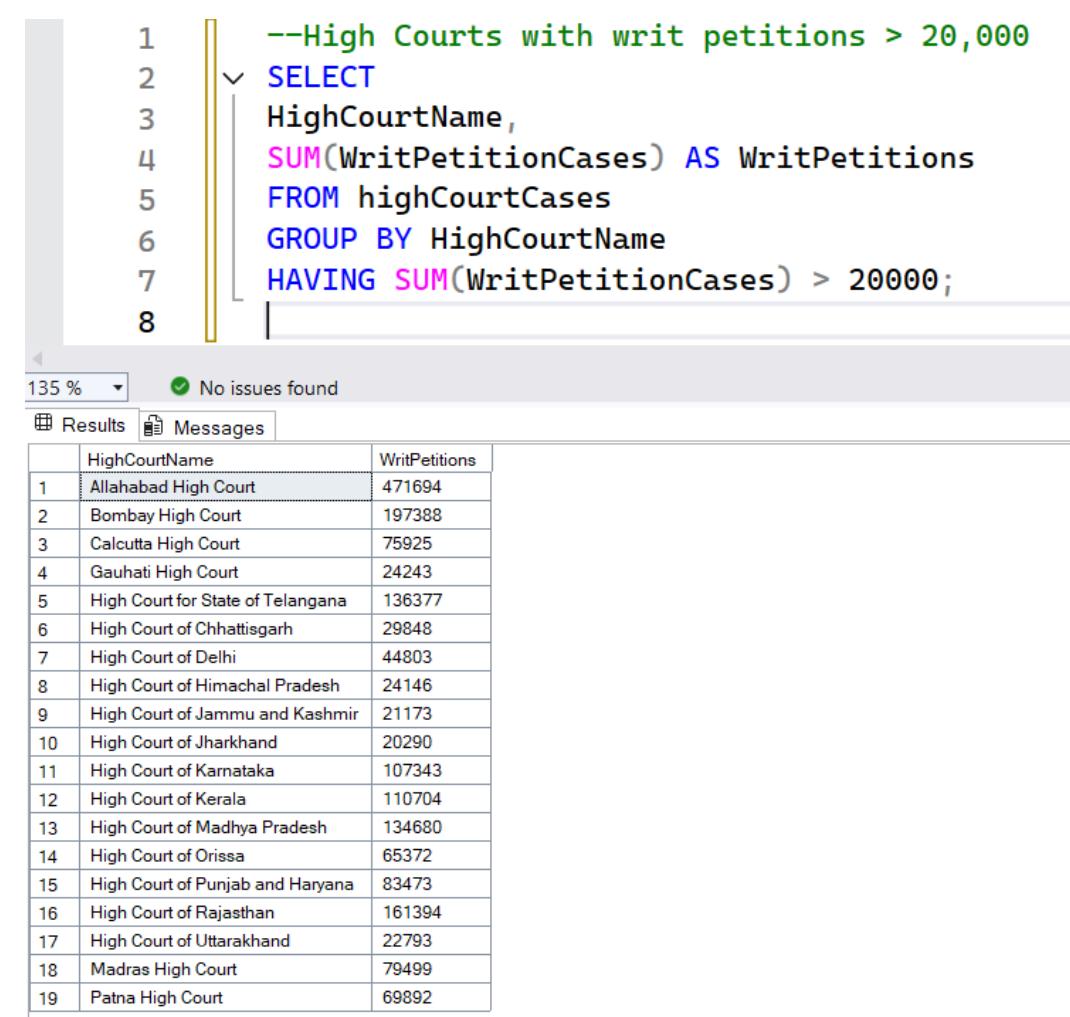
	HighCourtName	HighCourtBench	CourtCaseType
1	Allahabad High Court	Allahabad Bench	Criminal
2	Allahabad High Court	Allahabad High Court Lucknow Bench	Criminal
3	Bombay High Court	High Court of Bombay at Goa	Criminal
4	Bombay High Court	Principal Bench,Appellate Side	Criminal
5	Bombay High Court	Principal Bench,Original Side	Criminal
6	Bombay High Court	Special Court (TORTS) Bombay	Civil
7	Bombay High Court	Special Court (TORTS) Bombay	Criminal
8	Calcutta High Court	Circuit Bench At Jalpaiguri	Civil
9	Calcutta High Court	Circuit Bench At Port Blair	Civil
10	Calcutta High Court	Circuit Bench At Port Blair	Criminal
11	Calcutta High Court	Principal Bench, Original Side	Civil
12	Calcutta High Court	Principal Bench, Original Side	Criminal
13	Gauhati High Court	Aizawl Bench	Civil
14	Gauhati High Court	Aizawl Bench	Criminal
15	Gauhati High Court	Itanagar Bench	Civil
16	Gauhati High Court	Kohima Bench	Civil
17	Gauhati High Court	Kohima Bench	Criminal
18	High Court for State of Telangana	Principal Bench at Hyderabad	Civil
19	High Court for State of Telangana	Principal Bench at Hyderabad	Criminal
20	High Court of Andhra Pradesh	Principal Bench Andhra Pradesh	Civil
21	High Court of Andhra Pradesh	Principal Bench Andhra Pradesh	Criminal
22	High Court of Chhattisgarh	Principal Bench Chhattisgarh	Civil
23	High Court of Chhattisgarh	Principal Bench Chhattisgarh	Criminal
24	High Court of Karnataka	Bench at Dharwad	Civil
25	High Court of Karnataka	Bench at Kalburagi	Civil
26	High Court of Manipur	Principal Bench Manipur	Civil
27	High Court of Meghalaya	Principal Bench Meghalaya	Civil
28	High Court of Meghalaya	Principal Bench Meghalaya	Criminal
29	High Court of Sikkim	Principal Bench Sikkim	Civil
30	High Court of Sikkim	Principal Bench Sikkim	Criminal
31	High Court of Tripura	Principal Bench Tripura	Civil
32	High Court of Tripura	Principal Bench Tripura	Criminal
33	Madras High Court	Madurai Bench of Madras High Court	Civil
34	Madras High Court	Madurai Bench of Madras High Court	Criminal
35	Madras High Court	Principal Bench Tamilnadu	Civil
36	Madras High Court	Principal Bench Tamilnadu	Criminal
37	Patna High Court	Principal Bench Patna	Civil

Calculate the average disposed cases (current year) per bench.

```sql
--Average disposed (current year) per bench
SELECT
HighCourtName,
HighCourtBench,
AVG(CAST(CasesDisposedCurrentYear AS BIGINT)) AS AvgDisposedCurrentYear
FROM highCourtCases
GROUP BY HighCourtName, HighCourtBench;
```

	HighCourtName	HighCourtBench	AvgDisposedCurrentYear
1	Gauhati High Court	Aizawl Bench	313
2	Allahabad High Court	Allahabad Bench	100852
3	Allahabad High Court	Allahabad High Court Lucknow Bench	32903
4	Bombay High Court	Bench at Aurangabad	21330
5	High Court of Karnataka	Bench at Dharwad	9375
6	High Court of Karnataka	Bench at Kalburagi	5127
7	Bombay High Court	Bench at Nagpur	11621
8	Bombay High Court	Bombay High Court,Bench at Kolhapur	3732
9	Calcutta High Court	Circuit Bench At Jalpaiguri	2036
10	Calcutta High Court	Circuit Bench At Port Blair	355
11	High Court of Gujarat	Gujarat High Court	31184
12	High Court of Madhya Pradesh	Gwalior Bench	10560
13	High Court of Rajasthan	High Court Bench at Jaipur	40197
14	Bombay High Court	High Court of Bombay at Goa	522
15	High Court of Delhi	High Court of Delhi	22048
16	High Court of Madhya Pradesh	Indore Bench	15737
17	Gauhati High Court	Itanagar Bench	730
18	High Court of Jammu and Kashmir	Jammu Wing	2698
19	Gauhati High Court	Kohima Bench	288
20	Madras High Court	Madurai Bench of Madras High Court	53004
21	High Court of Andhra Pradesh	Principal Bench Andhra Pradesh	23030
22	High Court of Karnataka	Principal Bench at Bengaluru	30742
23	High Court for State of Telangana	Principal Bench at Hyderabad	26847
24	High Court of Madhya Pradesh	Principal Bench at Jabalpur	29172
25	High Court of Chhattisgarh	Principal Bench Chhattisgarh	20052
26	High Court of Himachal Pradesh	Principal Bench Himachal P	27971
27	High Court of Jharkhand	Principal Bench Jharkhand	14712
28	High Court of Kerala	Principal Bench Kerala	33352
29	High Court of Manipur	Principal Bench Manipur	1235
30	High Court of Meghalaya	Principal Bench Meghalaya	630
31	High Court of Orissa	Principal Bench Orissa	32488
32	Patna High Court	Principal Bench Patna	49336
33	High Court of Punjab and Haryana	Principal Bench Punjab	64365
34	High Court of Sikkim	Principal Bench Sikkim	79
35	Madras High Court	Principal Bench Tamilnadu	87628
36	High Court of Tripura	Principal Bench Tripura	748
37	High Court of Uttarakhand	Principal Bench Uttarakhand	7278
38	Calcutta High Court	Principal Bench, Original Side	1530
39	Bombay High Court	Principal Bench,Appellate Side	17554
40	Calcutta High Court	Principal Bench,Appellate Side	20374

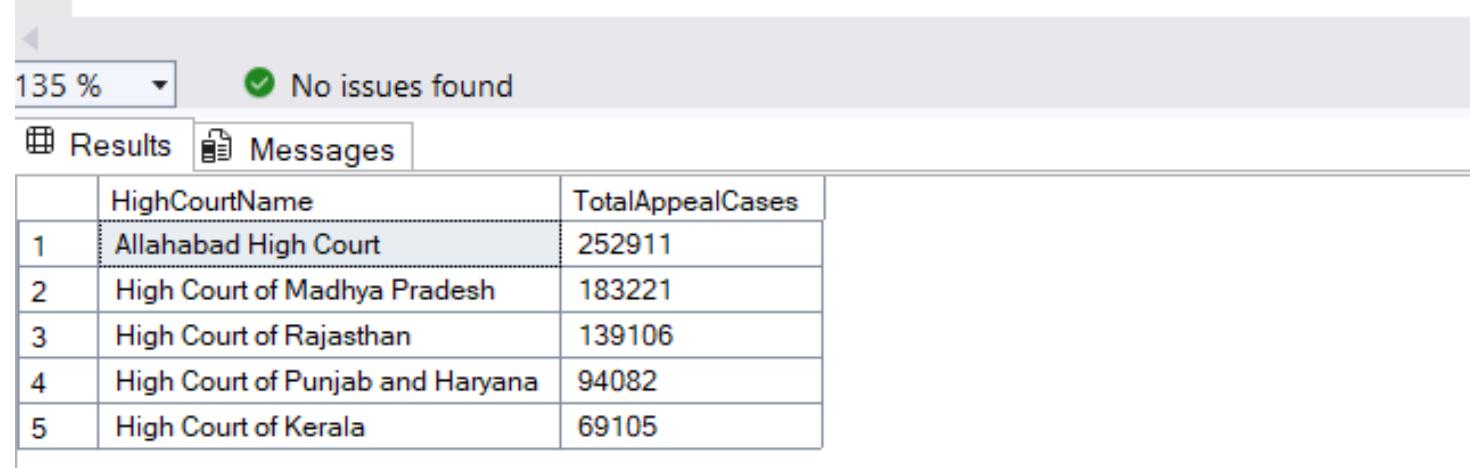# Show the High Courts where writ petition cases exceed 20,000.

```sql
1    --High Courts with writ petitions > 20,000
2    SELECT
3    HighCourtName,
4    SUM(WritPetitionCases) AS WritPetitions
5    FROM highCourtCases
6    GROUP BY HighCourtName
7    HAVING SUM(WritPetitionCases) > 20000;
8
```

135 %   ✓ No issues found

Results | Messages

	HighCourtName	WritPetitions
1	Allahabad High Court	471694
2	Bombay High Court	197388
3	Calcutta High Court	75925
4	Gauhati High Court	24243
5	High Court for State of Telangana	136377
6	High Court of Chhattisgarh	29848
7	High Court of Delhi	44803
8	High Court of Himachal Pradesh	24146
9	High Court of Jammu and Kashmir	21173
10	High Court of Jharkhand	20290
11	High Court of Karnataka	107343
12	High Court of Kerala	110704
13	High Court of Madhya Pradesh	134680
14	High Court of Orissa	65372
15	High Court of Punjab and Haryana	83473
16	High Court of Rajasthan	161394
17	High Court of Uttarakhand	22793
18	Madras High Court	79499
19	Patna High Court	69892

Find the top 5 High Courts with the maximum appeal cases.

```sql
--Top 5 High Courts by appeal cases
SELECT TOP 5
HighCourtName,
SUM(AppealCases) AS TotalAppealCases
FROM highCourtCases
GROUP BY HighCourtName
ORDER BY TotalAppealCases DESC;
```

135 % ✓ No issues found

Results Messages

	HighCourtName	TotalAppealCases
1	Allahabad High Court	252911
2	High Court of Madhya Pradesh	183221
3	High Court of Rajasthan	139106
4	High Court of Punjab and Haryana	94082
5	High Court of Kerala	69105

Compare instituted vs disposed cases (current year) for each High Court.

```sql
-- Compare instituted vs disposed (current year) by High Court
SELECT
    HighCourtName,
    SUM(CasesInstitutedCurrentYear) AS Instituted_Current_Year,
    SUM(CasesDisposedCurrentYear)   AS Disposed_Current_Year,
    SUM(CasesInstitutedCurrentYear) - SUM(CasesDisposedCurrentYear) AS Net_Addition
FROM highCourtCases
GROUP BY HighCourtName
ORDER BY HighCourtName;
```

111 %   ✓ No issues found

Results   Messages

	HighCourtName	Instituted_Current_Year	Disposed_Current_Year	Net_Addition
1	Allahabad High Court	211864	267511	-55647
2	Bombay High Court	164796	134315	30481
3	Calcutta High Court	51099	48591	2508
4	Gauhati High Court	20785	22436	-1651
5	High Court for State of Telangana	52292	53695	-1403
6	High Court of Andhra Pradesh	43753	46060	-2307
7	High Court of Chhattisgarh	45955	40104	5851
8	High Court of Delhi	36326	44096	-7770
9	High Court of Gujarat	59880	62368	-2488
10	High Court of Himachal Pradesh	48803	55942	-7139
11	High Court of Jammu and Kashmir	9327	10219	-892
12	High Court of Jharkhand	31083	29425	1658
13	High Court of Karnataka	65687	90490	-24803
14	High Court of Kerala	57646	66704	-9058
15	High Court of Madhya Pradesh	96990	110940	-13950
16	High Court of Manipur	2105	2470	-365
17	High Court of Meghalaya	1070	1260	-190
18	High Court of Orissa	56203	64976	-8773
19	High Court of Punjab and Haryana	134955	128731	6224
20	High Court of Rajasthan	116163	165997	-49834
21	High Court of Sikkim	109	159	-50
22	High Court of Tripura	1256	1496	-240
23	High Court of Uttarakhand	12180	14556	-2376
24	Madras High Court	269302	281265	-11963
25	Patna High Court	85429	98673	-13244

List High Courts where total pending cases (all age groups) are above the national average and order them by pending cases.

```sql
-- High Courts where total pending (all age groups) > national average (per High Court)
WITH pending_by_hc AS (
    SELECT
        HighCourtName,
        SUM(PendingCasesLessThan1Yr
          + PendingCases1To3Yr
          + PendingCases3To5Yr
          + PendingCases5To10Yr
          + PendingCasesAbove10Yr) AS total_pending
    FROM highCourtCases
    GROUP BY HighCourtName
),
national_avg AS (
    SELECT AVG(total_pending) AS avg_pending_per_hc
    FROM pending_by_hc
)
SELECT
    p.HighCourtName,
    p.total_pending
FROM pending_by_hc p
CROSS JOIN national_avg a
WHERE p.total_pending > a.avg_pending_per_hc
ORDER BY p.total_pending DESC;
```

110 %   ✓ No issues found

Results | Messages

	HighCourtName	total_pending
1	Allahabad High Court	1196634
2	Bombay High Court	670606
3	High Court of Rajasthan	670523
4	Madras High Court	556299
5	High Court of Madhya Pradesh	481473
6	High Court of Punjab and Haryana	428906
7	High Court of Karnataka	322564
8	High Court of Kerala	260199

Identify benches that have more disposed cases than instituted cases in the current year.

```sql
-- Benches that have more disposed than instituted in the current year
SELECT
    HighCourtName,
    HighCourtBench,
    SUM(CasesInstitutedCurrentYear) AS Instituted_Current_Year,
    SUM(CasesDisposedCurrentYear)   AS Disposed_Current_Year
FROM highCourtCases
GROUP BY HighCourtName, HighCourtBench
HAVING SUM(CasesDisposedCurrentYear) > SUM(CasesInstitutedCurrentYear)
ORDER BY HighCourtName, HighCourtBench;
```

	HighCourtName	HighCourtBench	Instituted_Current_Year	Disposed_Current_Year
1	Allahabad High Court	Allahabad Bench	162028	201705
2	Allahabad High Court	Allahabad High Court Lucknow Bench	49836	65806
3	Bombay High Court	Bench at Nagpur	18181	23243
4	Bombay High Court	Principal Bench,Appellate Side	25285	35108
5	Bombay High Court	Principal Bench,Original Side	17169	24742
6	Bombay High Court	Special Court (TORTS) Bombay	46	53
7	Calcutta High Court	Circuit Bench At Jalpaiguri	3384	4073
8	Calcutta High Court	Circuit Bench At Port Blair	660	710
9	Calcutta High Court	Principal Bench, Original Side	2813	3060
10	Gauhati High Court	Aizawl Bench	468	627
11	Gauhati High Court	Itanagar Bench	1181	1460
12	Gauhati High Court	Principal Seat at Guwahati	18556	19772
13	High Court for State ...	Principal Bench at Hyderabad	52292	53695
14	High Court of Andhr...	Principal Bench Andhra Pradesh	43753	46060
15	High Court of Delhi	High Court of Delhi	36326	44096
16	High Court of Gujarat	Gujarat High Court	59880	62368
17	High Court of Hima...	Principal Bench Himachal P	48803	55942
18	High Court of Jammu...	Jammu Wing	4938	5396
19	High Court of Jammu...	Srinagar Wing	4389	4823
20	High Court of Karna...	Bench at Dharwad	14292	18751
21	High Court of Karna...	Bench at Kalburagi	6789	10255
22	High Court of Karna...	Principal Bench at Bengaluru	44606	61484
23	High Court of Kerala	Principal Bench Kerala	57646	66704
24	High Court of Madh...	Gwalior Bench	20594	21120
25	High Court of Madh...	Indore Bench	25780	31475
26	High Court of Madh...	Principal Bench at Jabalpur	50616	58345
27	High Court of Manip...	Principal Bench Manipur	2105	2470
28	High Court of Megh...	Principal Bench Meghalaya	1070	1260
29	High Court of Orissa	Principal Bench Orissa	56203	64976
30	High Court of Rajast...	High Court Bench at Jaipur	56366	80394
31	High Court of Rajast...	Principal Seat Jodhpur	59797	85603
32	High Court of Sikkim	Principal Bench Sikkim	109	159
33	High Court of Tripura	Principal Bench Tripura	1256	1496
34	High Court of Uttara...	Principal Bench Uttarakhand	12180	14556
35	Madras High Court	Madurai Bench of Madras High Court	102620	106009
36	Madras High Court	Principal Bench Tamilnadu	166682	175256
37	Patna High Court	Principal Bench Patna	85429	98673

Tasks – Part B (Python)

```python
import pyodbc
import pandas as pd

# ODBC connection string
conn_str = (
    "Driver={ODBC Driver 17 for SQL Server};"
    "Server=.\\SQLEXPRESS01;"
    "Database=HighCourtDB1;"
    "Trusted_Connection=yes;"
)

conn = pyodbc.connect(conn_str)
cursor = conn.cursor()
cursor.execute("SELECT * FROM HighCourtCases")

rows = cursor.fetchall()
columns = [column[0] for column in cursor.description]
df = pd.DataFrame.from_records(rows, columns=columns)
print(df.head())

cursor.close()
conn.close()
```

df

	Case_id	Country	CalendarDay	HighCourtName	HighCourtBench	CourtCaseType	CasesInstitutedLastMonth	CasesDisposedLastMonth	PendingCasesLessThan1Yr
0	1	India	2025-09-16	Allahabad High Court	Allahabad Bench	Civil	12572	10968	79560
1	2	India	2025-09-16	Allahabad High Court	Allahabad Bench	Criminal	15757	13058	104582
2	3	India	2025-09-16	Allahabad High Court	Allahabad High Court Lucknow Bench	Civil	3880	2676	27925
3	4	India	2025-09-16	Allahabad High Court	Allahabad High Court Lucknow Bench	Criminal	4461	3056	26663
4	5	India	2025-09-16	Bombay High Court	Bench at Aurangabad	Civil	2077	45515	28803
...	...	...	...	...	...	...	...	...	...
85	86	India	2025-09-16	Madras High Court	Madurai Bench of Madras High Court	Criminal	3915	5510	17952
86	87	India	2025-09-16	Madras High Court	Principal Bench Tamilnadu	Civil	15230	12704	103467
87	88	India	2025-09-16	Madras High Court	Principal Bench Tamilnadu	Criminal	5128	5302	14105
88	89	India	2025-09-16	Patna High Court	Principal Bench Patna	Civil	2641	2059	35166
89	90	India	2025-09-16	Patna High Court	Principal Bench Patna	Criminal	10138	8964	41729

90 rows × 25 columns

Which Court Case Type has the highest total pending cases (all age groups combined)?

```python
# Making a new column which have the sum of all pending cases for Civil and Criminal

df['total_pending_cases'] = (
    df['pending_lt1y'] +
    df['pending_1to3y'] +
    df['pending_3to5y'] +
    df['pending_5to10y'] +
    df['pending_gt10y']
)

case_type_totals = df.groupby('court_case_type')['total_pending_cases'].sum()
highest_value = case_type_totals.max()
highest_case_type = case_type_totals.idxmax()

print(f"{highest_case_type} has the highest total pending cases: {highest_value}")
```

```
Civil has the highest total pending cases: 4462665
```

What is the median number of writ petition cases across all High Courts?

```python
writ_petition_cases = df['writ_cases'].median()
print(f"The median number of writ petition cases across all High Courts is: {int(writ_petition_cases)}")
```

The median number of writ petition cases across all High Courts is: 1334

Which High Court has the maximum number of total appeal cases?

```python
total_appeal_cases = df.groupby('high_court_name')['appeal_cases'].sum()
max_appeal_cases = total_appeal_cases.max()
max_appeal_court = total_appeal_cases.idxmax()

print(f"{max_appeal_court} has the maximum number of total appeal cases: {int(max_appeal_cases)}")
```

Allahabad High Court has the maximum number of total appeal cases: 252911

Add a new column BacklogRatio = Pending Cases Above 10 Years ÷ Total Pending Cases.

```python
df['BacklogRatio'] = df['pending_gt10y'] / df['total_pending_cases']
df['BacklogRatio'] = df['BacklogRatio'].round(3)
```

```python
df['BacklogRatio'].head(2)
```

```
0    0.407
1    0.358
Name: BacklogRatio, dtype: float64
```

Show the top 5 High Courts with the highest BacklogRatio.

```
top_5_high_courts = df.sort_values(by='BacklogRatio', ascending=False).head(5)
top_5_high_courts[['high_court_name', 'BacklogRatio']]
```

	high_court_name	BacklogRatio
0	Allahabad High Court	0.407
24	Calcutta High Court	0.393
22	Calcutta High Court	0.390
1	Allahabad High Court	0.358
71	High Court of Orissa	0.348

Which High Court has the maximum application cases?

```python
max_cases = df.sort_values(by='application_cases', ascending=False).head(1)
print(f"{max_cases['high_court_name'].values[0]} has the maximum application cases with {max_cases['application_cases'].values[0]} cases.")
```

```
Allahabad High Court has the maximum application cases with 182958 cases.
```

Find the average number of disposed cases in the current year grouped by Court Case Type.

```python
disposed_cases = df.groupby('court_case_type')['disposed_current_year'].mean()
print(disposed_cases)
```

```
court_case_type
Civil        23864.155556
Criminal     17079.822222
Name: disposed_current_year, dtype: float64
```

Get summary statistics (mean, min, max) of instituted cases last month.

```python
summary = df['instituted_last_month'].agg(['mean', 'min', 'max'])
print((summary).round(2))
```

```
mean        2447.76
min            0.00
max        15757.00
Name: instituted_last_month, dtype: float64
```

From the DataFrame, select the first 10 High Courts where pending cases above 10 years form more than 20% of total pending cases.

```
epending_cases_above_10 = df[df['pending_gt10y'] > 0.2 * df['total_pending_cases']]
epending_cases_above_10 = epending_cases_above_10.head(10)
epending_cases_above_10[['high_court_name','total_pending_cases']]
```

	high_court_name	total_pending_cases
0	Allahabad High Court	486369
1	Allahabad High Court	482920
2	Allahabad High Court	134587
3	Allahabad High Court	92758
4	Bombay High Court	120875
8	Bombay High Court	40273
9	Bombay High Court	11158
12	Bombay High Court	202478
16	Bombay High Court	57
22	Calcutta High Court	16847

Create a Series of total instituted cases (last month) by High Court using indexing and display the top 5 with the highest values.

```
total_instituted_cases = df.sort_values(by= 'instituted_last_month', ascending = False).head(5)
total_instituted_cases[['high_court_name', 'instituted_last_month']]
```

	high_court_name	instituted_last_month
1	Allahabad High Court	15757
86	Madras High Court	15230
0	Allahabad High Court	12572
89	Patna High Court	10138
73	High Court of Punjab and Haryana	9339