

Data Source:

- <https://gol.gg/esports/home/>

Games of Legends is a widely known third-party professional LoL database. It serves as our data source of information in relation to matches and rounds.

- <https://docs.google.com/spreadsheets/d/1Y7k5kQ2AegbuyiGwEPsa62e883FYVtHqr6UVut9RC4o/pubhtml#>

Information in relation to clubs, teams, and players are acquired from this site.

- <https://lol.fandom.com/wiki/Wiki>

Information in relation to contracts signed between clubs and players are acquired from this site.

- https://docs.google.com/spreadsheets/d/1kF3O7Dma61w_N5T4OdhqHs4HkTU8nT9ztTVWfAc4HRA/edit?usp=share_link

Data acquired from the sources were processed and compiled into this google sheet.

Test:

- DDL:

Results		Messages	
chpId	chpName	chpTitle	
1	C001	Yone	The Unforgotten
2	C002	Lin Sin	The Blind Monk
chpsId	chpsSeason	chpsRegion	chpsYear
1	0001	NULL	World
2	0002	Summer	LPL
clbId	clbName	clbRegion	
1	CLB001	T1	LCK
2	CLB002	DRX	LCK
conId	conStartDate	conEndDate	clbId
1	CT00001	2020-11-01	2023-11-20
2	CT00002	2020-11-01	2022-11-21
matId	matBestOfGames	chpsId	
1	M000001	5	0001

Query executed successfully. | doitsqlx.rhsmith.umd.edu,97... | AD\jhan0629 (59) | BUDT703_DB_Student_009 | 00:00:01 | 18 rows

Results Messages

temId	rndId	isBlueTeam	isWinnerTeam
1	T00001	R00000001	1
2	T00002	R00000001	0

plyId	rndId	plyKill	plyDeath	plyAssist	plyPos	chpId
1	P00001	R00000001	4	1	5	TOP
2	P00002	R00000001	3	2	1	JUG

plyId	plyFirstName	plyLastName	plyNickName	plyBirthDate	plyCitizenShip	temId
1	P00001	WooJe	Choi	Zeus	2004-01-31	South Korea
2	P00002	Seong-hoon	Hwang	King	2000-03-11	South Korea

rndId	rndDate	rndLength	rndViewerCount	matId
1	R00000001	2022-11-05	00:31:10.0000000	113884
				M000001

temId	temName	temTriCode	clbId
1	T00001	T1	CLB001
2	T00002	DRX	CLB002

Query executed successfully.

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- **Data input:**

We used SQL Server Import and Export Wizard to import data.

- **DML:**

1. What are the top 3 rounds which have the most viewers?

```
SELECT r.*
```

```
FROM [LOL.Round] r,
```

```
(
```

```
SELECT TOP 3 r1.rndViewerCount
```

```
FROM [LOL.Round] r1
```

```
GROUP BY r1.rndViewerCount
```

```
ORDER BY r1.rndViewerCount DESC
```

```
) viewerCount
```

```
WHERE r.rndViewerCount IN (viewerCount.rndViewerCount)
```

```
ORDER BY r.rndViewerCount
```

Results Messages

	rndId	rndDate	rndLength	rndViewerCount	matId
1	R20000009	2022-10-29	00:24:53.0000000	329075	M2000002
2	R20000007	2022-10-29	00:33:59.0000000	331364	M2000002
3	R20000006	2022-10-29	00:39:52.0000000	399439	M2000002

Query executed successfully.

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2. What are the top 3 champions with the highest win rate?

```

SELECT TOP 3 c.chpId AS [Champion Id],
              c.chpName AS [Champion Name],
              1 - SUM(CAST(pa.isWinnerTeam AS DECIMAL(14,4))) /
COUNT(c.chpId) AS [Win Rate]
FROM [LOL.Champion] c JOIN [LOL.Perform] pe ON c.chpId = pe.chpId
              JOIN [LOL.Player] p ON p.plyId = pe.plyId
              JOIN [LOL.Participate] pa ON pa.rndId = pe.rndId AND pa.temId = p.temId
GROUP BY c.chpId, c.chpName
ORDER BY [Win Rate] DESC, c.chpId

```

Results		Messages	
	Champion Id	Champion Name	Win Rate
1	C044	Jax	1.000000
2	C083	Poppy	1.000000
3	C113	Taliyah	1.000000

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3. Who are the players with the best performance (defined as (player kill + player assist) / player death) in a single round?

DROP VIEW IF EXISTS KDA

CREATE VIEW KDA AS

```

SELECT p.rndId, p.plyId, p.plyPos,

CASE

WHEN p.plyDeath = 0 THEN p.plyAssist + p.plyKill

ELSE CAST((p.plyAssist + p.plyKill) AS DECIMAL(10,2)) / CAST(p.plyDeath AS DECIMAL(10,2))

END AS kda

FROM [LOL.Perform] p

```

```

SELECT      k.rndId,

            CONCAT(pl.plyFirstName, ' ', pl.plyLastName) AS 'PlayerName',

            pl.plyNickname,

            CONVERT(DECIMAL(10, 2),ROUND(k.kda, 2)) AS 'KDA'

FROM KDA k JOIN [LOL.Player] pl ON k.plyId = pl.plyId

WHERE k.kda = (

            SELECT MAX(k1.kda) AS 'MaxKDA'

            FROM KDA k1

            WHERE k1.rndId = k.rndId

        )

ORDER BY k.rndId

```

Results		Messages	
rndId	PlayerName	plyNickname	KDA
1 R20000001	Wang-ho Han	Peanut	15.00
2 R20000002	Su Heo	ShowMaker	12.00
3 R20000006	Qi Zeng	Yagao	15.00
4 R20000007	Min-seok Ryu	Keia	11.00
5 R20000010	Huanfeng Tang	huanfeng	15.00
6 R20000011	Lixun Peng	Xun	14.00
7 R20000011	Tanpanao Li	XinLiu	14.00
8 R20000012	Tao Xiang	Angel	19.00

Query executed successfully.

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4. Who are the players with the best average performance on each position (i.e. top, mid, jungle, adc, support)?

```
SELECT CONCAT(pl.plyFirstName, ' ', pl.plyLastName) AS [PlayerName],  
        pl.plyNickname,  
        k.plyPos,  
        CONVERT(DECIMAL(10, 2), ROUND(k.kda, 2)) AS 'KDA'  
FROM KDA k JOIN [LOL.Player] pl ON k.plyId = pl.plyId,  
  
(  
    SELECT K.plyPos, MAX(k.kda) AS 'MaxKDA'  
    FROM KDA k JOIN [LOL.Player] p ON k.plyId = p.plyId  
    GROUP BY k.plyPos  
) maxKDA  
WHERE k.plyPos = maxKDA.plyPos AND k.kda = maxKDA.MaxKDA  
ORDER BY k.plyPos, [PlayerName]
```

Results

Messages

	PlayerName	plyNickname	plyPos	KDA
1	Huanfeng Tang	huanfeng	ADC	15.00
2	Wang-ho Han	Peanut	JUG	15.00
3	Tao Xiang	Angel	MID	19.00
4	Min-seok Ryu	Keria	SUP	14.00
5	Si-woo Son	Lehends	SUP	14.00
6	Tanpanao Li	XinLiu	SUP	14.00
7	Seunglok Kang	TheShy	TOP	17.00

Query executed successfully.

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5. What is the average performance of players from different regions?

```
SELECT c.clbRegion,  
        CONVERT(DECIMAL(10, 2), ROUND(AVG(k.kda), 2)) AS [Regional Avg. Perf.]  
FROM [LOL.Player] pl  
JOIN KDA k ON pl.plyId=k.plyId  
JOIN [LOL.Perform] pe ON pl.plyId = pe.plyId
```

JOIN [LOL.Team] t ON pl.temId = t.temId

JOIN [LOL.Club] c ON t.clbId = c.clbId

GROUP BY c.clbRegion

Results		Messages
	clbRegion	Regional Avg. Perf.
1	LCK	4.87
2	LPL	6.27

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6. Who are the players who served a club for the longest time?

SELECT pl.plyId, CONCAT(pl.plyFirstName, ' ', pl.plyLastName) AS 'Player Name',
cl.clbId AS 'Club ID',

cl.clbName AS 'Club Name', cn.conStartDate AS 'Contrat Start',

CAST(DATEDIFF(DAY, cn.conStartDate, GETDATE())) AS
VARCHAR(10)) AS 'Serve Days'

FROM [LOL.Player] pl, [LOL.Contract] cn, [LOL.Club] cl

WHERE cl.clbId = cn.clbId

AND pl.plyId = cn.plyId

AND CAST(DATEDIFF(DAY, cn.conStartDate, GETDATE())) AS
VARCHAR(10)) IN (

SELECT MAX(CAST(DATEDIFF(DAY, cn_s.conStartDate,
GETDATE())) AS VARCHAR(10))) AS 'Max Work Day'

FROM [LOL.Player] pl_s, [LOL.Contract] cn_s, [LOL.Club] cl_s

WHERE cl_s.clbId = cn_s.clbId

AND pl_s.plyId = cn_s.plyId

GROUP BY cl_s.clbId)

GROUP BY pl.plyId, pl.plyFirstName, pl.plyLastName, cl.clbId, cl.clbName,
cn.conStartDate;

Results		Messages				
	plyId	Player Name	Club ID	Club Name	Contract Start	Serve Days
1	P20001	Hyeon-joon Choi	CLB201	Gen.G	2021-11-23	381
2	P20002	Wangho Han	CLB201	Gen.G	2021-11-23	381
3	P20005	Si-woo Son	CLB201	Gen.G	2021-11-23	381
4	P20009	Dae-gil Seo	CLB202	DW/G KIA	2021-12-01	373
5	P20010	Hyeong-gyu Kim	CLB202	DW/G KIA	2021-12-01	373
6	P20015	Yun-Feng Lou	CLB203	JD Gaming	2021-11-19	385
7	P20016	Woo-je Choi	CLB207	SK Telecom	2020-11-20	749
8	P20020	Min-seok Ryu	CLB207	SK Telecom	2020-11-20	749

Query executed successfully.

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