Magic: The Gathering

And how Python came to the rescue

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What is Magic: The Gathering?

Collectible card game invented by Richard Garfield and released in 1993.

Played using a 60-card deck, usually between 2 players, each with 20 starting life.

There are 5 different colours of mana used as primary resource to cast creatures and spells.

Incorporates beautiful art, extensive lore and on-going storyline.

Black Lotus — 0

Mono Artifact

Adds 3 mana of any single color of your choice to your mana pool, then is discarded. Tapping this artifact can be played as an interrupt.

Illus. © Christopher Rush

Keeping track of stats

I run a weekly MtG playgroup with 25 players on
average and I kinda love to keep track of various
statistics.

Decks played, deck performance, match results etc.

How to keep track of them? Google Sheets, doh!

ČMC Bežigrad - Modern

File Edit View Insert Format Data Tools Add-ons Help — Last edit was yesterday at 12:50 AM — Share

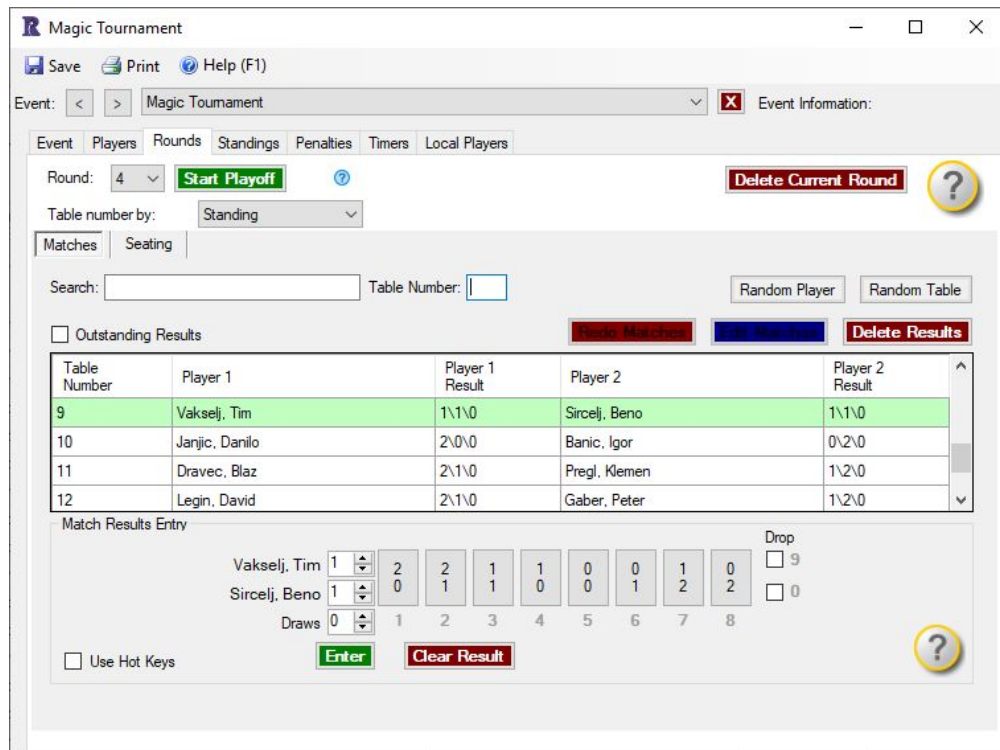=VLOOKUP(M3,$A$1:$B$250,2,FALSE)

Named ranges

+ Add a range

A_20180108
'Data Sheet'!D3:J23

A_20180115
'Data Sheet'!D24:J51

A_20180122
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A_20180129
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A_20180205
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A_20180326
'Data Sheet'!D298:J331

A_20180409
'Data Sheet'!D333:J362

A_20180416
'Data Sheet'!D363:J389

Deck	Arhetip		Datum	Event	Deck	Rezultat	Točke	Koeficient	Red. točke		Uspešnost				Metagame % po uspešnosti			Popularnost				Metagame % po popularnosti				Metagam
											Januar				Januar			Januar				Januar				Januar
Bant Spirits	Aggro / Tempo				Bant Spirits	3-2	2.5	1	2.5		Control	8-Rack		0.8080808081	Grixis Death's Shadow	7.68%		8-Rack	Abzan		1	Grixis Death's Shadow	6.93%		Aggro / Tempo
Blue Moon Breach	Control				Blue Moon Breach	2-3	2	1	2		Midrange	Abzan	10	4.04040404	UR Kiki-Moon	5.66%		Abzan	Abzan Liege		3.96039604	Elves	5.94%		Big Mana
Eldrazi Tron	Big Mana				Eldrazi Tron	2-3	2	1	2		Midrange	Abzan Liege		2.02020202	Elves	5.25%		Abzan Liege	Affinity		1.98019802	Abzan	3.96%		Combo
Elves	Aggro / Tempo				Elves	3-2	2.5	1	2.5		Aggro / Tempo	Affinity	2.5	1.01010101	Bant Spirits	4.85%		Affinity	B-Tron		0.9900990099	Bant Spirits	3.96%		Control
Grixis Death's Shadow	Midrange				Grixis Death's Shadow	1-4	2	1	2		Midrange	B-Tron	4	1.616161616	UW Control	4.85%		B-Tron	BG Rock		1.98019802	Jeskai Saheeli	3.96%		Midrange
Hollowine Shadow	Midrange				Grixis Death's Shadow	2-3	2.5	1	2.5		Midrange	BG Rock	4	2.020202020	Abzan	4.04%		BG Rock	BW Death & Taxes		0.9900990099	Lantern Control	3.96%	
Infect	Aggro / Tempo				Hollowine Shadow	2-3	2	1	2		Aggro / Tempo	BW Death & Taxes	3.5	0.8080808081	G-Tron	3.84%		G-Tron	BW Eldrazi Taxes		0.9900990099	UR Kiki-Moon	3.96%	
Jeskai Control	Control				Infect	2-3	2	1	2		Aggro / Tempo	BW Eldrazi Taxes	3.5	1.414141414	Jund	3.64%		Jund	Bant Spirits		3.96039604	UW Control	3.96%	
Jeskai Geist	Midrange				Jeskai Control	2-3	2.5	1	2.5		Aggro / Tempo	Bant Spirits	12	4.848484848	Lantern Control	3.43%		Lantern Control	Blue Moon Breach		3.96039604	Burn	2.97%	
Jeskai Saheeli	Combo				Jeskai Geist	2-3	2	1	2		Control	Blue Moon Breach	4	1.616161616	Jeskai Saheeli	3.23%		Jeskai Saheeli	Burn		2.97029703	G-Tron	2.97%	
Jund	Midrange		08.01.2018	Modern Monday	Jeskai Geist	2-3	2	1	2		Aggro / Tempo	Burn	6.5	2.626262626	Tribal Death's Shadow	3.23%		Tribal Death's Shadow	G-Tron		0.9900990099	Humans	2.97%	
Jund Death's Shadow	Midrange				Jeskai Saheeli	2-3	2	1	2		Midrange	Doran Abzan	2	0.8080808081	Humans	2.83%		Humans	Humans		2.97029703	Jeskai Control	2.97%	
Lantern Control	Control				Jund	4-1	3.5	1	3.5		Combo	Dredge	6	2.424242424	Burn	2.63%		Burn	Jund		1.98019802	Jund	2.97%	
Soul Sisters	Aggro / Tempo				Jund Death's Shadow	2-3	2	1	2		Big Mana	Eldrazi Tron	5	2.020202020	Dredge	2.42%		Dredge	Eldrazi Tron		1.98019802	Tribal Death's Shadow	2.97%	
Tribal Death's Shadow	Midrange				Lantern Control	2-3	2.5	1	2.5		Aggro / Tempo	Elves	13	5.252525253	Jeskai Control	2.42%		Jeskai Control	Elves	5	5.940594059	Abzan Liege	1.98%	
U-Tron	Control				Soul Sisters	3-2	4	1	4		Midrange	Esper Tokens	2.5	1.01010101	U-Tron	2.42%		U-Tron	Esper Tokens	3	2.97029703	B-Tron	1.98%	
UB Rogues	Aggro / Tempo				Tribal Death's Shadow	4-0-1	4	1	4		Big Mana	G-Tron	9.5	3.838383838	Abzan Liege	2.02%		Abzan Liege	Eldrazi Tron		1.98019802	Dredge	1.98%	
UR Kiki-Moon	Combo				U-Tron	3-2	4	1	4		Big Mana	GW Tron	2	0.8080808081	Eldrazi Tron	2.02%		Eldrazi Tron	GW Tron		0.9900990099	Eldrazi Tron	1.98%	
UW Control	Control				UB Rogues	1-4	2	1	2		Aggro / Tempo	Goblin Burn	2	0.8080808081	Jeskai Geist	1.82%		Jeskai Geist	Goblin Burn		0.9900990099	Hollowine Shadow	1.98%	
Abzan	Midrange				UR Kiki-Moon	4-0-1	4	1	4		Midrange	Grixis Death's Shadow	19	7.676767677	Soul Sisters	1.82%		Soul Sisters	Grixis Death's Shadow	6	6.930693069	Jeskai Geist	1.98%	
8-Rack	Midrange				UW Control	4-1	3.5	1	3.5		Midrange	Hollowine Shadow	4	1.616161616	Storm	1.82%		Hollowine Shadow	Hollowine Shadow		1.98019802	Soul Sisters	1.98%	
Abzan Liege	Aggro / Tempo				8-Rack	3-2	4	1	4		Aggro / Tempo	Humans	7	2.828282828	Taking Turns	1.82%		Taking Turns	Humans	3	2.97029703	Storm	1.98%	
Affinity	Aggro / Tempo				Abzan	4-0-1	4	1	4		Aggro / Tempo	Infect	2.5	1.01010101	B-Tron	1.62%		B-Tron	Infect		2.97029703	Taking Turns	1.98%	
BG Rock	Midrange				Abzan Liege	3-2	2.5	1	2.5		Control	Jeskai Control	4	2.424242424	Hollowine Shadow	1.62%		Hollowine Shadow	Jeskai Control	3	2.97029703	UB Rogues	1.98%	
BW Death & Taxes	Aggro / Tempo				Affinity	3-2	2.5	1	2.5		Midrange	Jeskai Geist	4.5	1.818181818	UB Rogues	1.62%		UB Rogues	Jeskai Geist		0.9900990099	Ostalo	22.77%	
Dredge	Combo				Bant Spirits	4-1	3.5	1	3.5		Midrange	Jeskai Midrange	2	0.8080808081	BW Eldrazi Taxes	1.41%		BW Eldrazi Taxes	Jeskai Midrange		0.9900990099			
G-Tron	Big Mana				BG Rock	1-2-2	2	1	2		Combo	Jeskai Saheeli	8	3.232323232	Jeskai Tempo	1.41%		Jeskai Tempo	Jeskai Saheeli	4	3.96039604			
Goblin Burn	Aggro / Tempo				BW Death & Taxes	1-1-3	2	1	2		Midrange	Jeskai Tempo	3.5	1.414141414	Skred	1.21%		Skred	Jeskai Tempo		0.9900990099			
Humans	Aggro / Tempo				Dredge	4-0-1	4	1	4		Midrange	Jund	9	3.636363636	Affinity	1.01%		Affinity	Jund		2.97029703			
Naya Cluemans	Aggro / Tempo				Elves	2-3	2	1	2		Midrange	Jund Death's Shadow	2	0.8080808081	Esper Tokens	1.01%		Esper Tokens	Jund Death's Shadow		3.96039604			
B-Tron	Big Mana				G-Tron	3-2	3.5	1	3.5		Control	Lantern Control	8.5	3.434343434	Infect	1.01%		Infect	Lantern Control	3	2.97029703			
Burn	Aggro / Tempo				Goblin Burn	2-3	2	1	2		Midrange	Mardu Midrange	2	0.8080808081	RG Scapeshift	1.01%		RG Scapeshift	Mardu Midrange		0.9900990099			
BW Eldrazi Taxes	Aggro / Tempo				Grixis Death's Shadow	3-2	4	1	4		Aggro / Tempo	Merfolk	2	0.8080808081	UB Mill	1.01%		UB Mill	Merfolk		0.9900990099			
Doran Abzan	Midrange				Hollowine Shadow	1-4	2	1	2		Aggro / Tempo	Mono-W Samurai	2	0.8080808081	UR Delver	1.01%		UR Delver	Mono-W Samurai		0.9900990099			
Esper Tokens	Midrange		15.01.2018	Modern Monday	Humans	2-3	2	1	2		Big Mana	Naya Cluemans	2.5	1.01010101	Ostalo	11.31%		Ostalo	Naya Cluemans		0.9900990099			
GW Tron	Big Mana				Jeskai Control	2-1-2	2	1	2		Control	RG Scapeshift	2.5	1.01010101					RG Scapeshift		0.9900990099			
Jeskai Midrange	Midrange				Jeskai Control	1-2-2	2	1	2		Control	Skred	3	1.212121212					Skred		0.9900990099			
Mardu Midrange	Midrange				Jeskai Saheeli	1-2-2	2	1	2		Aggro / Tempo	Soul Sisters	4.5	1.818181818					Soul Sisters		1.98019802			
Merfolk	Aggro / Tempo				Jund	2-3	2	1	2		Combo	Storm	4.5	1.818181818					Storm		1.98019802			
Taking Turns	Combo				Lantern Control	2-2-1	2	1	2		Combo	Taking Turns	4.5	1.818181818					Taking Turns		1.98019802			
UB Mill	Aggro / Tempo				Naya Cluemans	1-2-2	2	1	2		Midrange	Tribal Death's Shadow	8	3.232323232					Tribal Death's Shadow	3	2.97029703			
UG Emerge	Aggro / Tempo				Soul Sisters	1-4	2	1	2		Control	U-Tron	6	2.424242424					U-Tron		0.9900990099			
UR Delver	Aggro / Tempo				Storm	2-3	2.5	1	2.5		Midrange	UB Mill	2.5	1.01010101					UB Mill		0.9900990099			
					Storm	2-3	2	1	2		Aggro / Tempo	UB Rogues	4	1.616161616					UB Rogues		1.98019802			

Metagame (2019) | Modern 2018/19 | Deck Performance (2019) | Arhetipi | Modern Data | Data Sheet | Metagame (2018) | Deck Performance (2018) | Lestvica 201

Explore

Python to the rescue!

Wizards Event Reporter is the official tournament software. **Problem?**

It's outdated, buggy and lack several important features.

But not all is lost, you can export tournament data in .xml!

WER Parser 0.1

1. Parse the XML file and convert it to JSON

2. Filter out the relevant data and save it using SQLite:
   - First name, last name, DCI
   - Tournament info (date, tournament ID, format)
   - Match and round info (matchups, match outcomes)

3. Calculate Glicko2 rating for each player

Players table

#	uid	firstname	lastname	country	rating	rating_deviation	volatility
	Filter	Filter	Filter	F...	Filter	Filter	Filter
1	8300087457	Roman	Demir	SI	1670.1184...	169.6617042...	0.0600...
2	1154280	Anze	Avsec	SI	1581.6114...	45.39007491...	0.0600...
3	8213635254	Jan	Holc	SI	1555.5928...	55.13606511...	0.0598...
4	5213574210	Áron	Horváth	US	1544.6163...	57.53913937...	0.0601...
5	4081042226	Matic	Morgan	SI	1519.4318...	94.52185403...	0.0599...
6	9318556489	Gal	Bumbar	SI	1515.3419...	47.93254617...	0.0600...
7	8106795907	Nik	Bradac	SI	1512.1947...	70.89243546...	0.0599...
8	36084463	Tomo	Pejanovi...	SI	1511.0893...	57.71437103...	0.0599...
9	8213635288	Drek	Money	SI	1509.8482...	49.43404093...	0.0599...
10	4208078432	Mario	Hercezi	US	1496.2656...	95.29058631...	0.0600...
11	51151183	Klemen	Pregl	SI	1495.7047...	44.81193088...	0.0599...
12	3112749452	Dai	Pejanovi...	SI	1493.8012...	82.48015986...	0.0600...
13	7107034362	David	Legin	SI	1475.6864...	48.57795587...	0.0599...
14	1318559986	Jost	Pintar	US	1469.6825...	44.33313693...	0.0601...
15	87567567	Bor	Bogozalec	US	1467.6049...	155.6549529...	0.0599...
16	4213629327	Peter	Kolar	SI	1463.3749...	48.09749245...	0.0599...
17	4105376852	Ziga	Abram	US	1463.1425...	170.3452641...	0.0599...
18	2212290746	Miha	Zehelj	SI	1461.8360...	44.36764553...	0.0600...
19	1154281	Igor	Banic	SI	1450.4574...	43.85676355...	0.0599...
20	2319061445	Rok	Kosir	US	1449.4179...	78.32682272...	0.0599...
21	8213635285	Blaz	Hron	SI	1443.8637...	48.75639565...	0.0599...

Matches table

#	uid	round_uid	player_uid	opponent_uid	win	loss	draw	outcome
	Filter	Filter	Filter	Filter				Filter
1	a7753b65-49c...	af79ccd1-9600...	9316065110	NULL	2	0	0	3
2	d8bcaa55-4a8...	af79ccd1-9600...	36084463	6030220335	2	1	0	1
3	580653b3-9e...	af79ccd1-9600...	3112749452	7105361501	2	1	0	1
4	a84db54e-4ec...	af79ccd1-9600...	3112749803	4318719640	2	0	0	1
5	9fa4ad64-671...	af79ccd1-9600...	8213635372	2319061445	2	1	0	1
6	a0cfd3b1-e97...	af79ccd1-9600...	2318723317	8213635288	2	0	0	1
7	b1cf4855-8aa...	af79ccd1-9600...	3106784408	1318559986	2	0	0	1
8	5c27cfd2-063...	af79ccd1-9600...	1030220331	7107034362	2	1	0	1
9	a6839554-17...	af79ccd1-9600...	8213635254	4213629327	2	0	0	1
10	0c6cd88f-8f81...	af79ccd1-9600...	5213574210	8318726672	2	0	0	1
11	85f801b0-2d9...	af79ccd1-9600...	8213635285	62880550	2	1	0	1
12	257de4a7-caa...	363a2d06-4da...	7107034362	NULL	2	0	0	3
13	4c868383-62b...	363a2d06-4da...	9316065110	8213635285	2	0	0	1
14	1d948019-b0...	363a2d06-4da...	8213635254	3112749803	2	0	0	1
15	c0181d9f-933...	363a2d06-4da...	3112749452	2318723317	2	0	0	1
16	d2e9e8af-893...	363a2d06-4da...	3106784408	5213574210	2	0	0	1
17	2089edb9-57c...	363a2d06-4da...	36084463	8213635372	2	1	0	1
18	75ccb293-ce8...	363a2d06-4da...	1030220331	8213635288	2	0	0	1
19	0ada0775-2d...	363a2d06-4da...	4213629327	2319061445	2	0	0	1
20	f818d5a3-8af...	363a2d06-4da...	1318559986	6030220335	2	0	0	1
21	075bc7b1-ba9...	363a2d06-4da...	8318726672	4318719640	2	1	0	1

That's all... for now!

Thanks for listening, I'll just leave this here.