Dominion Card Set Search Engine:
A Useful Tool For Your Dominion Games

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What Inspired This Project?

This past year, my family quarantined at home due to Covid-19. During that time, we played a lot of board games. One of my favorite games to play is a game called Dominon!

What is Dominion?

Dominion is a game played with a set of 10 different action cards. When you play, you select a set of 10 cards to play with. There are recommended sets in each box, or you can choose your own sets.

PAWN	GREAT HALL	FEAST	MILITIA	TRADING POST
Choose two: +1 Card; +1 Action; +1 Buy; +①. (The choices must be different.)	+1 Card +1 Action 1	Trash this card. Gain a card costing up to ⑤.	+② Each other player discards down to 3 cards in his hand.	Trash 2 cards from your hand. If you do, gain a Silver card; put it into your hand.
② ACTION	③ ACTION-VICTORY	④ ACTION	④ ACTION - ATTACK	⑤ ACTION

FISHING VILLAGE	BRIDGE	GARDENS	COUNCIL ROOM	ADVENTURER
+2 Actions +① At the start of your next turn: +1 Action +①	+1 Buy +① All cards (including cards in players' hands) cost ① less this turn, but not less than ⓪.	Worth 1 ▯ for every 10 cards in your deck (rounded down).	+4 Cards +1 Buy Each other player draws a card.	Reveal cards from your deck until you reveal 2 Treasure cards. Put those Treasure cards into your hand and discard the other revealed cards.
③ ACTION - DURATION	④ ACTION	④ VICTORY	⑤ ACTION	⑥ ACTION

What is a Card Set Search Engine?

A card set search engine is a way to input the name of a select card, for example, "Jester", and find all recommended card sets that utilize this card.

The search engine shows that there are 14 recommended sets that span a variety of the different Dominion games. You can choose one based upon the different Dominion games you own, or whichever set sounds fun.

Why is a Card Set Search Engine Helpful?

Part of Dominion's attraction is having different sets of cards. It makes for a dynamic and new experience each time you play. The card set search engine lets you choose one card that you enjoy playing with, or want to explore, and offers you a variety of possible sets to use featuring that card.

How to Use This Program

When ran, the program will ask you to type in the name of the card you wish to search for or if you would like to see the menu of cards.

```
Python 3.9.0 (v3.9.0:9cf6752276, Oct  5 2020, 11:29:23)
[Clang 6.0 (clang-600.0.57)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=========== RESTART: /Users/bruceward/Desktop/4-H Python/Dominion.py ===========
Dominion Card Set Search Engine
What card do you want to search for? Or enter 1 to view a menu of card options. 1
Acting Troupe
Advisor
Alchemist
Altar
Ambassador
Amulet
Animal Fair
Apothecary
Apprentice
Archive
Armory
Artificer
Artisan
Baker
Bandit
Bandit Camp
Band of Misfits
Bank
Bard
Barge
Baron
Bazaar
Beggar
Bishop
Black Cat
Blessed Village
Border Village
Bounty Hunter
Bridge
Bridge Troll
Bureaucrat
Butcher
Cache
Camel Train
Candlestick Maker
Capital
```

When a specific card is entered, the program searches the database for my chosen card, printing any sets containing it.

```
What card to you want to search for? Market
First Game
Expansions:    Dominion
Kingdom Cards: Cellar, Market, Merchant, Militia, Mine, Moat, Remodel, Smithy, Village, Workshop
Additional Items: None


Give and Take
Expansions:    Dominion Seaside
Kingdom Cards: Library, Market, Moneylender, Witch, Ambassador, Fishing Village, Haven, Island, Salvager, Smugglers
Additional Items: None


Chemistry Lesson
Expansions:    Dominion Alchemy
Kingdom Cards: Bureaucrat, Market, Moat, Remodel, Vassal, Witch, Alchemist, Golem, Philosopher's Stone, University
Additional Items: Potion


Level Up
Expansions:    Dominion Adventures
Kingdom Cards: Market, Merchant, Militia, Throne Room, Workshop, Dungeon, Gear, Guide, Lost City, Miser
Additional Items: Training


Silver Bullets
Expansions:    Dominion Empires
Kingdom Cards: Bureaucrat, Gardens, Laboratory, Market, Moneylender, Catapult, Charm, Farmers' Market, Groundskeeper, Patrician
Additional Items: Conquest Aqueduct


Idle Hands
Expansions:    Dominion Nocturne
Kingdom Cards: Bard, Conclave, Cursed Village, Devil's Workshop, Tragic Hero, Cellar, Harbinger, Market, Merchant, Moneylender
Additional Items: Boons, Hexes


It Takes a Villager
Expansions:    Dominion Renaissance
Kingdom Cards: Acting Troupe, Cargo Ship, Recruiter, Seer, Treasurer, Market, Merchant, Mine, Smithy, Vassal
Additional Items: Road Network, Key


Pony Express
Expansions:    Dominion Menagerie
Kingdom Cards: Barge, Destrier, Paddock, Stockpile, Supplies, Artisan, Cellar, Market, Mine, Village
Additional Items: Stampede, Way of the Seal


Gilding the Lily
Expansions:    Dominion Cornucopia/Guilds
Kingdom Cards: Library, Merchant, Remodel, Market, Sentry, Plaza, Masterpiece, Candlestick Maker, Taxman, Herald
Additional Items: None
```

If the card is spelled incorrectly or doesn't exist, an error message is displayed.

```
Python 3.9.0 (v3.9.0:9cf6752276, Oct  5 2020, 11:29:23)
[Clang 6.0 (clang-600.0.57)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=========== RESTART: /Users/bruceward/Desktop/4-H Python/Dominion.py ===========
Dominion Card Set Search Engine
What card do you want to search for? Marker
Sorry, no sets with that card were found.
>>> |
```

Challenges For Future Improvements

1. Add community favorite sets of 10 to the database.
2. Be able to search by game, eg. Cornucopia, Intrigue, etc.

Code

```python
#Bruce Ward
#Dominon card set search engine
#July 2021

import csv
print ("Dominion Card Set Search Engine")
#Ask user for card they wish to search for
cardName = input("What card do you want to search for? Or enter 1 to view a menu of card options. ")

#Loads Dominion card menu and card set data file
menufile = 'dominionCardMenu.csv'
filename = 'dominionCardSets.csv'

#If user chooses to see menu, this reads through menu and prints it out, and then asks for user's chosen card.
if cardName == '1':
    with open (menufile) as f:
        reader = csv.reader(f)
        header_row = next(reader)

        for row in reader:
            print (row[0])
        cardName = input("What card to you want to search for? ")
```

Code (continued)

```python
#Create a flag variable to check for invalid input
flag = 0

#Goes through data file line by line
with open (filename) as f:
    reader = csv.reader(f)

    #Reads through header row
    header_row = next(reader)

    #Reads next row in data file
    for row in reader:
        startCounter = 3
        endCounter = 13

        #Goes through the ten cards for this row, checking for matching results
        for value in range(startCounter, endCounter):
            checkCard = row[value]

            #If the name of the card entered is found, then print card set
            if (cardName.title() == checkCard.title()):
                flag = 1

                #Formating data to print nicely
                print (row[0])
                print ("Expansions:    " + row[1] + " " + row[2])
                print ("Kingdom Cards: ", end = '')
                for value2 in range(startCounter, endCounter):
                    if (value2 != endCounter - 1):
                        print (row[value2]+ ", ", end = '')
                    else:
                        print (row[value2])
                print ("Additional Items: " + row[13])
                print ("\n")

#No matching sets found, printing error message
    if flag == 0:
        print ("Sorry, no sets with that card were found.")
```

Database

I made the database on my own, using the official Dominion Wiki for reference. The database contains all official sets of 10 cards.

	SET	GAME1	GAME2	CARD1	CARD2	CARD3	CARD4	CARD5	CARD6	CARD7	CARD8	CARD9	CARD10	ADDITIONAL THINGS
1	SET	GAME1	GAME2	CARD1	CARD2	CARD3	CARD4	CARD5	CARD6	CARD7	CARD8	CARD9	CARD10	ADDITIONAL THINGS
2	First Game	Dominion		Cellar	Market	Merchant	Militia	Mine	Moat	Remodel	Smithy	Village	Workshop	None
3	Underlings	Dominion	Intrigue	Cellar	Festival	Library	Sentry	Vassal	Courtier	Diplomat	Minion	Nobles	Pawn	None
4	Reach for To	Dominion	Seaside	Artisan	Cellar	Council Room	Vassal	Village	Cutpurse	Ghost Ship	Lookout	Sea Hag	Treasure Ma	None
5	Servants	Alchemy	Intrigue	Golem	Possession	Scrying Pool	Transmute	Vineyard	Conspirator	Mill	Minion	Pawn	Steward	Potion
6	Forbidden Ar	Alchemy	Dominion	Apprentice	Familiar	Possession	University	Bandit	Cellar	Council Room	Gardens	Laboratory	Throne Room	Potion
7	Size Distortic	Dominion		Artisan	Bandit	Bureaucrat	Chapel	Festival	Gardens	Sentry	Throne Room	Witch	Workshop	None
8	Deck Top	Dominion		Artisan	Bureaucrat	Council Room	Festival	Harbinger	Laboratory	Moneylender	Sentry	Vassal	Village	None
9	Slight of Han	Dominion		Cellar	Council Room	Festival	Gardens	Library	Harbinger	Militia	Poacher	Smithy	Throne Room	None
10	Improvemen	Dominion		Artisan	Cellar	Market	Merchant	Mine	Moat	Moneylender	Poacher	Remodel	Witch	None
11	Silver & Gold	Dominion		Bandit	Bureaucrat	Chapel	Harbinger	Laboratory	Merchant	Mine	Moneylender	Throne Room	Vassal	None
12	Grand Schen	Dominion	Intrigue	Artisan	Council Room	Market	Militia	Workshop	Bridge	Mill	Mining Villag	Patrol	Shanty Town	None
13	Deconstructi	Dominion	Intrigue	Bandit	Mine	Remodel	Throne Room	Village	Diplomat	Harem	Lurker	Replace	Swindler	None
14	Repetition	Dominion	Seaside	Festival	Harbinger	Militia	Workshop	Caraven	Explorer	Outpost	Pearl Diver	Pirate Ship	Treasury	None
15	Give and Tak	Dominion	Seaside	Library	Market	Moneylender	Witch	Ambassador	Fishing Villag	Haven	Island	Salvager	Smugglers	None
16	Potion Mixer	Dominion	Alchemy	Cellar	Festival	Militia	Poacher	Smithy	Alchemist	Apothecary	Golem	Herbalist	Transmute	Potion
17	Chemistry Le	Dominion	Alchemy	Bureaucrat	Market	Moat	Remodel	Vassal	Witch	Alchemist	Golem	Philosopher's	University	Potion
18	Biggest Mon	Dominion	Prosperity	Artisan	Harbinger	Laboratory	Mine	Moneylender	Bank	Grand Marke	Mint	Royal Seal	Venture	None
19	The King's Ar	Dominion	Prosperity	Bureaucrat	Council Room	Merchant	Moat	Village	Expand	Goons	King's Court	Rabble	Vault	None
20	The Good Lif	Dominion	Prosperity	Artisan	Bureaucrat	Cellar	Gardens	Village	Contraband	Counting Hot	Hoard	Monument	Mountebank	None
21	Bounty of the	Dominion	Cornucopia/(	Cellar	Festival	Militia	Moneylender	Smithy	Harvest	Horn of Plent	Hunting Part	Menagerie	Tournament	None
22	Highway Rok	Dominion	Hinterlands	Cellar	Library	Moneylender	Throne Room	Workshop	Highway	Inn	Margrave	Noble Brigan	Oasis	None
23	Adventures /	Dominion	Hinterlands	Festival	Laboratory	Remodel	Sentry	Vassal	Crossroads	Farmland	Fool's Gold	Oracle	Spice Mercha	None
24	High and Lov	Dominion	Dark Ages	Cellar	Moneylender	Throne Room	Witch	Workshop	Hermit	Hunting Grou	Mystic	Poor House	Wandering N	Shelters
25	Chivalry and	Dominion	Dark Ages	Festival	Gardens	Laboratory	Library	Remodel	Altar	Knights	Rats	Scavenger	Squire	Shelters
26	Level Up	Dominion	Adventures	Market	Merchant	Militia	Throne Room	Workshop	Dungeon	Gear	Guide	Lost City	Miser	Training
27	Son of Size D	Dominion	Adventures	Bandit	Bureaucrat	Gardens	Moneylender	Witch	Amulet	Duplicate	Giant	Messenger	Treasure Tro	Bonfire Raid

As you can see, there are a lot of card sets!

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
187	Area Control	Adventures	Empires	Capital	Catapult	Charm	Crown	Farmers' Ma	Coin of the R	Page	Relic	Treasure Tro	Wine Merch	Banquet, Keep
188	No Money N	Adventures	Empires	Archive	Encampment	Royal Blacksr	Temple	Villa	Dungeon	Duplicate	Hireling	Peasant	Transmogrify	Mission, Bandit, Fort
189	Monster Mas	Adventures	Nocturne	Conclave	Guardian	Pixie	Vampire	Werewolf	Bridge Troll	Giant	Messenger	Ratcatcher	Storyteller	Boons, Hexes, Quest
190	Lost in the W	Adventures	Nocturne	Blessed Villa	Druid	Fool	Sacred Grove	Tracker	Caravan Gua	Guide	Haunted Wo	Hireling	Ranger	Boons, Hexes, The Sky's Gift, The Field's Gift, The Sea's Gift
191	Progress	Adventures	Renaissance	Experiment	Improve	Recruiter	Seer	Silk Merchan	Hireling	Ranger	Raze	Swamp Hag	Transmogrify	Training, Piazza
192	Once Upon a	Adventures	Renaissance	Acting Troup	Lackeys	Priest	Sculptor	Spices	Distant Land	Duplicate	Haunted Wo	Royal Carriag	Storyteller	Ferry, Innovation
193	Horse Feathe	Adventures	Menagerie	Destrier	Displace	Falconer	Sleigh	Stockpile	Magpie	Ranger	Ratcatcher	Relic	Royal Carriag	Pilgrimage, Way of the Ox
194	Sooner or Lat	Adventures	Menagerie	Barge	Gatekeeper	Groom	Mastermind	Village Green	Amulet	Caravan Gua	Dungeon	Giant	Raze	Toil, Mission
195	Basic Intro	Empires		Castles	Chariot Race	City Quarters	Engineer	Farmers' Ma	Forum	Legionary	Patrician	Sacrifice	Villa	Wedding, Tower
196	Advanced Int	Empires		Archive	Capital	Catapult	Crown	Enchantress	Gladiator	Groundskeep	Royal Blacksr	Settlers	Temple	Arena, Triumphal Arch
197	Luftschloss	Empires	Nocturne	Cemetery	Changeling	Exorcist	Fool	Shepherd	Archive	Castles	Catapult	Engineer	Temple	Boons, Tomb
198	Pooka Pranks	Empires	Nocturne	Faithful Houn	Ghost Town	Pixie	Pooka	Skulk	Chariot Race	Forum	Groundskeep	Sacrifice	Settlers	Boons, Hexes, Banquet
199	Exploring the	Empires	Renaissance	Cargo Ship	Experiment	Mountain Vil	Priest	Sculptor	City Quarter	Farmers' Ma	Groundskeep	Sacrifice	Wild Hunt	Exploration, Battlefield
200	Navigating th	Empires	Renaissance	Acting Troup	Flag Bearer	Improve	Old Witch	Scepter	Chariot Race	Enchantress	Gladiator	Patrician	Villa	Ritual, Sewers, Flag
201	No Money Do	Empires	Menagerie	Animal Fair	Cavalry	Sleigh	Stockpile	Wayfarer	Catapult	City Quarter	Crown	Engineer	Villa	Advance, Way of the Pig
202	Detours and	Empires	Menagerie	Camel Train	Fisherman	Gatekeeper	Sanctuary	Snowy Village	Enchantress	Overlord	Sacrifice	Settlers	Wild Hunt	Transport, Triumphal Arch
203	Dusk	Nocturne		Blessed Villa	Cobbler	Den of Sin	Faithful Houn	Fool	Monastery	Night Watch	Shepherd	Tormentor	Tragic Hero	Boons, Hexes
204	Midnight	Nocturne		Conclave	Crypt	Cursed Villag	Devil's Works	Druid	Exorcist	Leprechaun	Pooka	Raider	Secret Cave	Boons, Hexes, The Swamp's Gift, The Flame's Gift, the Wind's Gift
205	Becoming a N	Nocturne	Renaissance	Experiment	Mountain Vil	Old Witch	Research	Spices	Devil's Works	Monastery	Shepherd	Skulk	Tragic Hero	Hexes, Exploration
206	True Believer	Nocturne	Renaissance	Border Guar	Cargo Ship	Scholar	Sculptor	Villain	Blessed Villa	Crypt	Faithful Houn	Sacred Grove	Secret Cave	Boons, Cathedral, Piazza
207	Seize the Nig	Nocturne	Menagerie	Barge	Falconer	Hostelry	Sheepdog	Supplies	Cobbler	Devil's Works	Exorcist	Monastery	Skulk	Hexes, Seize the Day, Way of the Sheep
208	Animal Crack	Nocturne	Menagerie	Black Cat	Goatherd	Groom	Hunting Lodg	Kiln	Faithful Houn	Pixie	Pooka	Sacred Grove	Shepherd	Boons, Enhance, Way of the Chameleon
209	Overture	Renaissance		Acting Troup	Experiment	Flag Bearer	Hideout	Improve	Inventor	Lackeys	Old Witch	Seer	Treasurer	Fair, Flag, Key
210	Prelude	Renaissance		Border Guar	Cargo Ship	Ducat	Mountain Vil	Priest	Recruiter	Sculptor	Silk Merchan	Swashbuckle	Villain	Citadel, Flag, Horn, Lantern, Treasure Chest
211	Biding Time	Renaissance	Menagerie	Cavalry	Coven	Displace	Fisherman	Goatherd	Ducat	Priest	Recruiter	Scepter	Swashbuckle	Sinister Plot, Treasure Chest, Way of the Turtle
212	Villager Mad	Renaissance	Menagerie	Cardinal	Groom	Kiln	Livery	Wayfarer	Border Guar	Flag Bearer	Patron	Silk Merchan	Spices	Demand, Academy, Flag, Horn, Lantern
213	Intro to Hors	Menagerie		Animal Fair	Barge	Destrier	Goatherd	Hostelry	Livery	Paddock	Scrap	Sheepdog	Supplies	Enhance, Way of the Sheep
214	Intro to Exile	Menagerie		Black Cat	Bounty Hunt	Camel Train	Cardinal	Falconer	Mastermind	Sanctuary	Snowy Village	Wayfarer	March	Way of the Worm

Card Menu

In addition to the database of card sets, I also made a menu database that contains all cards in Dominion, so the user has a nice list to read through.

1	Card Name
2	Acting Troupe
3	Advisor
4	Alchemist
5	Altar
6	Ambassador
7	Amulet
8	Animal Fair
9	Apothecary
10	Apprentice
11	Archive
12	Armory
13	Artificer
14	Artisan
15	Baker
16	Bandit
17	Bandit Camp
18	Band of Misfits
19	Bank
20	Bard
21	Barge
22	Baron
23	Bazaar
24	Beggar
25	Bishop
26	Black Cat
27	Blessed Village
28	Border Village
29	Bounty Hunter
30	Bridge
31	Bridge Troll
32	Bureaucrat

There are a lot of cards in Dominion!

310	Transmogrify
311	Transmute
312	Treasure Map
313	Treasurer
314	Treasure Trove
315	Treasury
316	Tunnel
317	University
318	Upgrade
319	Urchin
320	Vagrant
321	Vampire
322	Vassal
323	Vault
324	Venture
325	Villa
326	Village
327	Village Green
328	Villain
329	Vineyard
330	Wandering Mistrel
331	Warehouse
332	Watchtower
333	Wayfarer
334	Werewolf
335	Wharf
336	Wild Hunt
337	Wine Merchant
338	Wishing Well
339	Witch
340	Worker's Village
341	Workshop
342	Young Witch

References

My Mom for helping me figure out how to format the data and import the csv files.

Donald X Vaccarino for making the game Dominion.

The official Dominion Wiki
http://wiki.dominionstrategy.com/index.php/Main_Page for the lists of different card sets from different Dominion games.

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