

In [489... `from pydfs_lineup_optimizer import get_optimizer, Site, Sport, PlayerFilter, RandomFantas`

In [490... `optimizer = get_optimizer(Site.DRAFTKINGS, Sport.BASKETBALL)`

In [491... `optimizer`

Out[491]: `<pydfs_lineup_optimizer.lineup_optimizer.LineupOptimizer at 0x15b75c28400>`

In [492... `optimizer.load_players_from_csv(r"C:\Users\djbro\OneDrive\Desktop\DFS\NBA\DraftKings\Lin`

In [493... `#Pool of questionable players, limit their exposure.
pool = optimizer.player_pool

player = optimizer.player_pool.get_player_by_name('Luke Kennard', 'Max Strus', 'Luke Kenna
player.max_exposure = 0.1 # set max exposure
player.min_exposure = 0.0 # set min exposure

player1 = optimizer.player_pool.get_player_by_name('Max Strus', 'Caleb Martin', 'Jabari
player1.max_exposure = 0.1 # set max exposure
player1.min_exposure = 0.0

player2 = optimizer.player_pool.get_player_by_name('Ivica Zubac', 'Tyler Herro', 'Bam Adeb
player2.max_exposure = 0.1 # set max exposure
player2.min_exposure = 0.0

player3 = optimizer.player_pool.get_player_by_name('Jimmy Butler')
player3.max_exposure = 0.1 # set max exposure
player3.min_exposure = 0.0`

In [495... `optimizer.set_fantasy_points_strategy(RandomFantasyPointsStrategy())`

In [496... `#AfterEacgExposureStrategy Adjusts exposure after every lineup generated. A player with
#and so on

lineups = optimizer.optimize(n=20, max_exposure=0.4, exposure_strategy=AfterEachExposures`

In [497... `lineups`

Out[497]: `<generator object LineupOptimizer.optimize at 0x0000015B75BB3270>`

In []:

In [498... `for lineup in lineups:
 print(lineup)`

1. PG	Ja Morant	PG	MEM	MIL@MEM	53.943 (59.464)	1
0400.0\$						
2. SG	Nickeil Alexander-Walker	PG/SG	UTA	NOP@UTA	32.297 (31.758)	4
900.0\$						
3. SF	Herbert Jones	PF/SF	NOP	NOP@UTA	22.661 (24.457)	4
500.0\$						
4. PF	Jarred Vanderbilt	C/PF	UTA	NOP@UTA	40.12 (37.528)	5
700.0\$						
5. C	Alperen Sengun	C	HOU	MIA@HOU	33.505 (36.893)	6
100.0\$						
6. G	Chris Paul	PG	PHX	PHX@LAC	39.08 (39.446)	8
200.0\$						
7. F	Larry Nance Jr.	C/PF	NOP	NOP@UTA	31.64 (34.15)	4
700.0\$						
8. UTIL	Torrey Craig	C/PF	PHX	PHX@LAC	36.278 (40.062)	5

500.0\$

Fantasy Points 289.52(303.76)

Salary 50000.00

1. PG	Jalen Green	PG/SG	HOU	MIA@HOU	37.727(38.524)	6
600.0\$						
2. SG	Dyson Daniels	SF/SG	NOP	NOP@UTA	21.938(24.129)	3
700.0\$						
3. SF	Lauri Markkanen	PF/SF	UTA	NOP@UTA	39.062(40.706)	8
100.0\$						
4. PF	Jaren Jackson Jr.	C/PF	MEM	MIL@MEM	39.395(40.106)	7
600.0\$						
5. C	Walker Kessler	C	UTA	NOP@UTA	27.992(28.933)	4
900.0\$						
6. G	Luke Kennard	SG	LAC	PHX@LAC	25.067(22.08)	3
800.0\$						
7. F	Jimmy Butler	PF	MIA	MIA@HOU	43.684(44.793)	8
700.0\$						
8. UTIL	Mikal Bridges	SF	PHX	PHX@LAC	34.843(38.183)	6
500.0\$						

Fantasy Points 269.71(277.45)

Salary 49900.00

1. PG	Tyler Herro	PG/SG	MIA	MIA@HOU	36.76(37.55)	8
000.0\$						
2. SG	Dillon Brooks	SG	MEM	MIL@MEM	27.405(30.51)	6
900.0\$						
3. SF	Naji Marshall	PF/SF	NOP	NOP@UTA	23.385(24.777)	3
600.0\$						
4. PF	Bobby Portis	C/PF	MIL	MIL@MEM	32.465(30.824)	6
200.0\$						
5. C	Brandon Clarke	C/PF	MEM	MIL@MEM	26.36(27.124)	5
000.0\$						
6. G	Malik Beasley	SF/SG	UTA	NOP@UTA	29.067(31.646)	5
900.0\$						
7. F	Zion Williamson	PF	NOP	NOP@UTA	47.167(43.229)	9
800.0\$						
8. UTIL	Nicolas Batum	C/PF	LAC	PHX@LAC	25.087(27.468)	4
400.0\$						

Fantasy Points 247.70(253.13)

Salary 49800.00

1. PG	Ja Morant	PG	MEM	MIL@MEM	53.943(48.149)	1
0400.0\$						
2. SG	Jalen Green	PG/SG	HOU	MIA@HOU	37.727(38.787)	6
600.0\$						
3. SF	Mikal Bridges	SF	PHX	PHX@LAC	34.843(36.162)	6
500.0\$						
4. PF	Jabari Smith Jr.	C/PF	HOU	MIA@HOU	29.188(32.032)	5
500.0\$						
5. C	Jarred Vanderbilt	C/PF	UTA	NOP@UTA	40.12(41.124)	5
700.0\$						
6. G	Nickeil Alexander-Walker	PG/SG	UTA	NOP@UTA	32.297(30.055)	4
900.0\$						
7. F	Larry Nance Jr.	C/PF	NOP	NOP@UTA	31.64(34.378)	4
700.0\$						
8. UTIL	Torrey Craig	C/PF	PHX	PHX@LAC	36.278(37.877)	5
500.0\$						

Fantasy Points 296.04(298.56)

Salary 49800.00

1. PG	Tyler Herro	PG/SG	MIA	MIA@HOU	36.76(36.476)	8
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000.0\$	2. SG	Dyson Daniels	SF/SG	NOP	NOP@UTA	21.938 (22.405)	3
700.0\$	3. SF	Naji Marshall	PF/SF	NOP	NOP@UTA	23.385 (25.306)	3
600.0\$	4. PF	Bobby Portis	C/PF	MIL	MIL@MEM	32.465 (31.268)	6
200.0\$	5. C	Brandon Clarke	C/PF	MEM	MIL@MEM	26.36 (28.849)	5
000.0\$	6. G	Malik Beasley	SF/SG	UTA	NOP@UTA	29.067 (31.123)	5
900.0\$	7. F	Jaren Jackson Jr.	C/PF	MEM	MIL@MEM	39.395 (37.198)	7
600.0\$	8. UTIL	Zion Williamson	PF	NOP	NOP@UTA	47.167 (42.984)	9
800.0\$							

Fantasy Points 256.54(255.61)
Salary 49800.00

1. PG	Kevin Porter Jr.	PG	HOU	MIA@HOU	28.801 (31.987)	7
000.0\$						
2. SG	Grayson Allen	SF/SG	MIL	MIL@MEM	22.622 (21.971)	4
600.0\$						
3. SF	Lauri Markkanen	PF/SF	UTA	NOP@UTA	39.062 (41.373)	8
100.0\$						
4. PF	Jabari Smith Jr.	C/PF	HOU	MIA@HOU	29.188 (31.803)	5
500.0\$						
5. C	Alperen Sengun	C	HOU	MIA@HOU	33.505 (35.732)	6
100.0\$						
6. G	Chris Paul	PG	PHX	PHX@LAC	39.08 (35.596)	8
200.0\$						
7. F	Nicolas Batum	C/PF	LAC	PHX@LAC	25.087 (27.494)	4
400.0\$						
8. UTIL	Walker Kessler	C	UTA	NOP@UTA	27.992 (30.595)	4
900.0\$						

Fantasy Points 245.34(256.55)
Salary 48800.00

1. PG	Ja Morant	PG	MEM	MIL@MEM	53.943 (48.345)	1
0400.0\$						
2. SG	Jalen Green	PG/SG	HOU	MIA@HOU	37.727 (37.512)	6
600.0\$						
3. SF	Herbert Jones	PF/SF	NOP	NOP@UTA	22.661 (24.416)	4
500.0\$						
4. PF	Jaren Jackson Jr.	C/PF	MEM	MIL@MEM	39.395 (41.04)	7
600.0\$						
5. C	Jarred Vanderbilt	C/PF	UTA	NOP@UTA	40.12 (40.044)	5
700.0\$						
6. G	Nickeil Alexander-Walker	PG/SG	UTA	NOP@UTA	32.297 (34.369)	4
900.0\$						
7. F	Larry Nance Jr.	C/PF	NOP	NOP@UTA	31.64 (30.699)	4
700.0\$						
8. UTIL	Torrey Craig	C/PF	PHX	PHX@LAC	36.278 (40.088)	5
500.0\$						

Fantasy Points 294.06(296.51)
Salary 49900.00

1. PG	Tyler Herro	PG/SG	MIA	MIA@HOU	36.76 (36.862)	8
000.0\$						
2. SG	Dyson Daniels	SF/SG	NOP	NOP@UTA	21.938 (21.042)	3
700.0\$						
3. SF	Herbert Jones	PF/SF	NOP	NOP@UTA	22.661 (25.223)	4
500.0\$						
4. PF	Lauri Markkanen	PF/SF	UTA	NOP@UTA	39.062 (40.462)	8

100.0\$	5. C	Alperen Sengun	C	HOU	MIA@HOU	33.505 (34.264)	6
100.0\$	6. G	Chris Paul	PG	PHX	PHX@LAC	39.08 (37.057)	8
200.0\$	7. F	Mikal Bridges	SF	PHX	PHX@LAC	34.843 (35.279)	6
500.0\$	8. UTIL	Walker Kessler	C	UTA	NOP@UTA	27.992 (26.585)	4
900.0\$							

Fantasy Points 255.84(256.77)
Salary 50000.00

1. PG	Jalen Green	PG/SG	HOU	MIA@HOU	37.727 (35.446)	6
600.0\$						
2. SG	Dyson Daniels	SF/SG	NOP	NOP@UTA	21.938 (24.567)	3
700.0\$						
3. SF	Lauri Markkanen	PF/SF	UTA	NOP@UTA	39.062 (43.212)	8
100.0\$						
4. PF	Jarred Vanderbilt	C/PF	UTA	NOP@UTA	40.12 (44.168)	5
700.0\$						
5. C	Alperen Sengun	C	HOU	MIA@HOU	33.505 (34.99)	6
100.0\$						
6. G	Nickeil Alexander-Walker	PG/SG	UTA	NOP@UTA	32.297 (32.645)	4
900.0\$						
7. F	Larry Nance Jr.	C/PF	NOP	NOP@UTA	31.64 (29.312)	4
700.0\$						
8. UTIL	Zion Williamson	PF	NOP	NOP@UTA	47.167 (47.825)	9
800.0\$						

Fantasy Points 283.46(292.17)
Salary 49600.00

1. PG	Ja Morant	PG	MEM	MIL@MEM	53.943 (50.794)	1
0400.0\$						
2. SG	Tyler Herro	PG/SG	MIA	MIA@HOU	36.76 (38.452)	8
000.0\$						
3. SF	Naji Marshall	PF/SF	NOP	NOP@UTA	23.385 (24.769)	3
600.0\$						
4. PF	Brandon Clarke	C/PF	MEM	MIL@MEM	26.36 (28.839)	5
000.0\$						
5. C	Walker Kessler	C	UTA	NOP@UTA	27.992 (29.124)	4
900.0\$						
6. G	Chris Paul	PG	PHX	PHX@LAC	39.08 (40.351)	8
200.0\$						
7. F	Nicolas Batum	C/PF	LAC	PHX@LAC	25.087 (27.468)	4
400.0\$						
8. UTIL	Torrey Craig	C/PF	PHX	PHX@LAC	36.278 (36.558)	5
500.0\$						

Fantasy Points 268.88(276.35)
Salary 50000.00

1. PG	Tyus Jones	PG	MEM	MIL@MEM	25.89 (27.863)	6
300.0\$						
2. SG	Malik Beasley	SF/SG	UTA	NOP@UTA	29.067 (29.127)	5
900.0\$						
3. SF	Naji Marshall	PF/SF	NOP	NOP@UTA	23.385 (20.648)	3
600.0\$						
4. PF	Bobby Portis	C/PF	MIL	MIL@MEM	32.465 (35.05)	6
200.0\$						
5. C	Jaren Jackson Jr.	C/PF	MEM	MIL@MEM	39.395 (34.779)	7
600.0\$						
6. G	Landry Shamet	SF/SG	PHX	PHX@LAC	20.21 (21.565)	4
000.0\$						
7. F	Zion Williamson	PF	NOP	NOP@UTA	47.167 (45.683)	9

Fantasy Points 285.24 (307.57)
Salary 49800.00

1. PG	Ja Morant	PG	MEM	MIL@MEM	53.943 (51.58)	1
0400.0\$						
2. SG	Dyson Daniels	SF/SG	NOP	NOP@UTA	21.938 (24.152)	3
700.0\$						
3. SF	Mikal Bridges	SF	PHX	PHX@LAC	34.843 (31.25)	6
500.0\$						
4. PF	Jabari Smith Jr.	C/PF	HOU	MIA@HOU	29.188 (32.387)	5
500.0\$						
5. C	Alperen Sengun	C	HOU	MIA@HOU	33.505 (37.429)	6
100.0\$						
6. G	Chris Paul	PG	PHX	PHX@LAC	39.08 (40.433)	8
200.0\$						
7. F	Larry Nance Jr.	C/PF	NOP	NOP@UTA	31.64 (31.64)	4
700.0\$						
8. UTIL	Walker Kessler	C	UTA	NOP@UTA	27.992 (29.042)	4
900.0\$						

Fantasy Points 272.13(277.91)

Salary 50000.00

1. PG	Kevin Porter Jr.	PG	HOU	MIA@HOU	28.801 (30.926)	7
000.0\$						
2. SG	Grayson Allen	SF/SG	MIL	MIL@MEM	22.622 (24.119)	4
600.0\$						
3. SF	Lauri Markkanen	PF/SF	UTA	NOP@UTA	39.062 (42.065)	8
100.0\$						
4. PF	Brandon Clarke	C/PF	MEM	MIL@MEM	26.36 (29.214)	5
000.0\$						
5. C	Jaren Jackson Jr.	C/PF	MEM	MIL@MEM	39.395 (41.167)	7
600.0\$						
6. G	Tyler Herro	PG/SG	MIA	MIA@HOU	36.76 (35.667)	8
000.0\$						
7. F	Nicolas Batum	C/PF	LAC	PHX@LAC	25.087 (25.677)	4
400.0\$						
8. UTIL	Walker Kessler	C	UTA	NOP@UTA	27.992 (26.132)	4
900.0\$						

Fantasy Points 246.08(254.97)

Salary 49600.00

1. PG	Ja Morant	PG	MEM	MIL@MEM	53.943 (55.971)	1
0400.0\$						
2. SG	Jalen Green	PG/SG	HOU	MIA@HOU	37.727 (35.959)	6
600.0\$						
3. SF	Mikal Bridges	SF	PHX	PHX@LAC	34.843 (38.662)	6
500.0\$						
4. PF	Jabari Smith Jr.	C/PF	HOU	MIA@HOU	29.188 (32.117)	5
500.0\$						
5. C	Jarred Vanderbilt	C/PF	UTA	NOP@UTA	40.12 (43.915)	5
700.0\$						
6. G	Nickeil Alexander-Walker	PG/SG	UTA	NOP@UTA	32.297 (29.995)	4
900.0\$						
7. F	Torrey Craig	C/PF	PHX	PHX@LAC	36.278 (36.382)	5
500.0\$						
8. UTIL	Walker Kessler	C	UTA	NOP@UTA	27.992 (30.847)	4
900.0\$						

Fantasy Points 292.39(303.85)

Salary 50000.00

1. PG	Tyler Herro	PG/SG	MIA	MIA@HOU	36.76 (40.245)	8
000.0\$						
2. SG	Grayson Allen	SF/SG	MIL	MIL@MEM	22.622 (23.609)	4
600.0\$						
3. SF	Naji Marshall	PF/SF	NOP	NOP@UTA	23.385 (22.86)	3

600.0\$	4. PF	Bobby Portis	C/PF	MIL	MIL@MEM	32.465 (35.899)	6
200.0\$	5. C	Alperen Sengun	C	HOU	MIA@HOU	33.505 (36.124)	6
100.0\$	6. G	Dyson Daniels	SF/SG	NOP	NOP@UTA	21.938 (22.403)	3
700.0\$	7. F	Jaren Jackson Jr.	C/PF	MEM	MIL@MEM	39.395 (41.034)	7
600.0\$	8. UTIL	Zion Williamson	PF	NOP	NOP@UTA	47.167 (45.205)	9
800.0\$							

Fantasy Points 257.24(267.38)
Salary 49600.00

0400.0\$	1. PG	Ja Morant	PG	MEM	MIL@MEM	53.943 (53.927)	1
600.0\$	2. SG	Jalen Green	PG/SG	HOU	MIA@HOU	37.727 (39.401)	6
600.0\$	3. SF	Naji Marshall	PF/SF	NOP	NOP@UTA	23.385 (25.048)	3
600.0\$	4. PF	Jaren Jackson Jr.	C/PF	MEM	MIL@MEM	39.395 (40.78)	7
700.0\$	5. C	Jarred Vanderbilt	C/PF	UTA	NOP@UTA	40.12 (43.148)	5
900.0\$	6. G	Nickeil Alexander-Walker	PG/SG	UTA	NOP@UTA	32.297 (34.259)	4
700.0\$	7. F	Larry Nance Jr.	C/PF	NOP	NOP@UTA	31.64 (30.154)	4
500.0\$	8. UTIL	Torrey Craig	C/PF	PHX	PHX@LAC	36.278 (39.91)	5

Fantasy Points 294.79(306.63)
Salary 49000.00

000.0\$	1. PG	Tyler Herro	PG/SG	MIA	MIA@HOU	36.76 (40.024)	8
700.0\$	2. SG	Dyson Daniels	SF/SG	NOP	NOP@UTA	21.938 (21.531)	3
100.0\$	3. SF	Lauri Markkanen	PF/SF	UTA	NOP@UTA	39.062 (42.266)	8
500.0\$	4. PF	Jabari Smith Jr.	C/PF	HOU	MIA@HOU	29.188 (32.48)	5
100.0\$	5. C	Alperen Sengun	C	HOU	MIA@HOU	33.505 (37.11)	6
000.0\$	6. G	Landry Shamet	SF/SG	PHX	PHX@LAC	20.21 (21.303)	4
700.0\$	7. F	Larry Nance Jr.	C/PF	NOP	NOP@UTA	31.64 (35.213)	4
800.0\$	8. UTIL	Zion Williamson	PF	NOP	NOP@UTA	47.167 (50.604)	9

Fantasy Points 259.47(280.53)
Salary 49900.00

In [499... optimizer.export(r"C:\Users\djbro\OneDrive\Desktop\DFS\NBA\DraftKings_Lineups\Example.cs

In [500... import pandas as pd

In [501... df = pd.read_csv(r"C:\Users\djbro\OneDrive\Desktop\DFS\NBA\DraftKings_Lineups\Example.cs

In [502... #df = df.sort_values(by='FPPG',ascending=False).reset_index(drop='index').head(20)
#df

```
In [503... df.to_csv(r"C:\Users\djbro\OneDrive\Desktop\DFS\NBA\DraftKings\DraftKingsBulkEnter\20221
```

```
In [504... positions = list(df.columns)[-2]
```

```
In [505... positions
```

```
Out[505]: ['PG', 'SG', 'SF', 'PF', 'C', 'G', 'F', 'UTIL']
```

```
In [506... fxn = lambda x: x[col].split("(")[1].split(")") [0]
```

```
In [507... for col in positions:  
    df[col]=df.apply(fxn,axis=1)
```

```
In [508... df.head(40)
```

```
Out[508]:
```

	PG	SG	SF	PF	C	G	F	UTIL	Budget	FPPG
0	25912010	25912165	25912196	25912108	25912095	25912033	25912184	25912123	50000.0	289.523
1	25912081	25912252	25912036	25912054	25912169	25912249	25912025	25912085	49900.0	269.709
2	25912040	25912072	25912270	25912091	25912156	25912101	25912013	25912204	49800.0	247.697
3	25912010	25912081	25912085	25912119	25912108	25912165	25912184	25912123	49800.0	296.035
4	25912040	25912252	25912270	25912091	25912156	25912101	25912054	25912013	49800.0	256.537
5	25912069	25912188	25912036	25912119	25912095	25912033	25912204	25912169	48800.0	245.339
6	25912010	25912081	25912196	25912054	25912108	25912165	25912184	25912123	49900.0	294.061
7	25912040	25912252	25912196	25912036	25912095	25912033	25912085	25912169	50000.0	255.841
8	25912081	25912252	25912036	25912108	25912095	25912165	25912184	25912013	49600.0	283.457
9	25912010	25912040	25912270	25912156	25912169	25912033	25912204	25912123	50000.0	268.885
10	25912088	25912101	25912270	25912091	25912054	25912233	25912013	25912085	49900.0	252.422
11	25912010	25912081	25912270	25912108	25912184	25912252	25912013	25912123	50000.0	292.197
12	25912040	25912165	25912085	25912054	25912095	25912249	25912025	25912204	50000.0	270.639
13	25912081	25912165	25912270	25912119	25912108	25912033	25912013	25912123	49800.0	285.242
14	25912010	25912252	25912085	25912119	25912095	25912033	25912184	25912169	50000.0	272.127
15	25912069	25912188	25912036	25912156	25912054	25912040	25912204	25912169	49600.0	246.081
16	25912010	25912081	25912085	25912119	25912108	25912165	25912123	25912169	50000.0	292.387
17	25912040	25912188	25912270	25912091	25912095	25912252	25912054	25912013	49600.0	257.237
18	25912010	25912081	25912270	25912054	25912108	25912165	25912184	25912123	49000.0	294.785
19	25912040	25912252	25912036	25912119	25912095	25912233	25912184	25912013	49900.0	259.470

```
In [509... df.to_csv(r"C:\Users\djbro\OneDrive\Desktop\DFS\NBA\DraftKings\DraftKingsToEnter\2022120
```

```
In [526... #Additional columns in csv
#The optimizer can parse those additional columns that can be added to imported csv:

#Max Exposure
#Min Exposure
#Roster Order
#Projected Ownership
```


#Min Deviation
#Max Deviation
#Projection Floor
#Projection Ceil
#Confirmed Starter
#Progressive Scale