In [9]:
```python
import numpy as np
import pandas as pd

filepath = '/content/val_stats.csv'
weapon_stats = data = pd.read_csv(filepath)
weapon_stats
```

Out[9]:

	Name	Weapon Type	Price	Fire Rate	Wall Penetration	Magazine Capacity	HDMG_0	BDMG_0	LDMG_0
0	Classic	Sidearm	0	6.75	Low	12	78	26	22
1	Shorty	Sidearm	300	3.33	Low	2	22	11	9
2	Frenzy	Sidearm	450	10.00	Low	13	78	26	22
3	Ghost	Sidearm	500	6.75	Medium	15	105	30	25
4	Sheriff	Sidearm	800	4.00	High	6	160	55	46
5	Stinger	SMG	1100	16.00	Low	20	67	27	22
6	Spectre	SMG	1600	13.33	Low	30	78	26	22
7	Bulldog	Rifle	2050	10.00	Medium	24	115	35	30
8	Guardian	Rifle	2250	5.25	High	12	195	65	49
9	Phantom	Rifle	2900	11.00	Medium	30	156	39	33
10	Vandal	Rifle	2900	9.25	Medium	25	160	40	34
11	Marshall	Sniper	950	1.50	Medium	5	202	101	85
12	Operator	Sniper	4700	0.75	High	5	255	150	127
13	Bucky	Shotgun	850	1.10	Low	5	40	20	17
14	Judge	Shotgun	1850	3.50	Low	5	34	17	14
15	Ares	Heavy	1600	13.00	High	50	72	30	25
16	Odin	Heavy	3200	12.00	High	100	95	38	32
17	Outlaw	Sniper	2400	2.75	High	2	238	140	119

In [10]:
```python
weapon_stats.dtypes
```

Out[10]:
```
Name               object
Weapon Type        object
Price               int64
Fire Rate         float64
Wall Penetration   object
Magazine Capacity   int64
HDMG_0              int64
BDMG_0              int64
LDMG_0              int64
HDMG_1              int64
BDMG_1              int64
LDMG_1              int64
HDMG_2              int64
BDMG_2              int64
LDMG_2              int64
dtype: object
```

In [11]:
```python
#identify the column names of the dataset
column_names = list(weapon_stats.columns.values)
print("Column Names :", column_names)
```

Column Names : ['Name', 'Weapon Type', 'Price', 'Fire Rate', 'Wall Penetration', 'Magazine Capacity', 'HDMG_0', 'BDMG_0', 'LDMG_0', 'HDMG_1', 'BDMG_1', 'LDMG_1', 'HDMG_2', 'BDMG_2', 'LDMG_2']

In [12]:
```python
text = "Total Number of Records: "
total_records = len(weapon_stats)
print(text + str(total_records))
```

Total Number of Records: 18

In [14]:
```python
#first 8 records
weapon_stats.head(8)
```

Out[14]:

	Name	Weapon Type	Price	Fire Rate	Wall Penetration	Magazine Capacity	HDMG_0	BDMG_0	LDMG_0	H
0	Classic	Sidearm	0	6.75	Low	12	78	26	22	
1	Shorty	Sidearm	300	3.33	Low	2	22	11	9	
2	Frenzy	Sidearm	450	10.00	Low	13	78	26	22	
3	Ghost	Sidearm	500	6.75	Medium	15	105	30	25	
4	Sheriff	Sidearm	800	4.00	High	6	160	55	46	
5	Stinger	SMG	1100	16.00	Low	20	67	27	22	
6	Spectre	SMG	1600	13.33	Low	30	78	26	22	
7	Bulldog	Rifle	2050	10.00	Medium	24	115	35	30	

In [15]:
```python
#last 8 records
weapon_stats.tail(8)
```

Out[15]:

|	Name	Weapon Type	Price	Fire Rate	Wall Penetration	Magazine Capacity	HDMG_0	BDMG_0	LDMG_0
10	Vandal	Rifle	2900	9.25	Medium	25	160	40	34
11	Marshall	Sniper	950	1.50	Medium	5	202	101	85
12	Operator	Sniper	4700	0.75	High	5	255	150	127
13	Bucky	Shotgun	850	1.10	Low	5	40	20	17
14	Judge	Shotgun	1850	3.50	Low	5	34	17	14
15	Ares	Heavy	1600	13.00	High	50	72	30	25
16	Odin	Heavy	3200	12.00	High	100	95	38	32
17	Outlaw	Sniper	2400	2.75	High	2	238	140	119

In [37]:
```python
df_weapon_type = weapon_stats['Weapon Type'].value_counts()
df_weapon_type
```

Out[37]:
```
Sidearm     5
Rifle       4
Sniper      3
SMG         2
Shotgun     2
Heavy       2
Name: Weapon Type, dtype: int64
```

Which gun catergory has the most number of guns?

In [45]:
```python
#Weapon Type

from matplotlib import pyplot as plt
import seaborn as sns
weapon_stats.groupby('Weapon Type').size().plot(kind='barh', color=sns.palettes.mpl
plt.gca().spines[['top', 'right',]].set_visible(False)
```
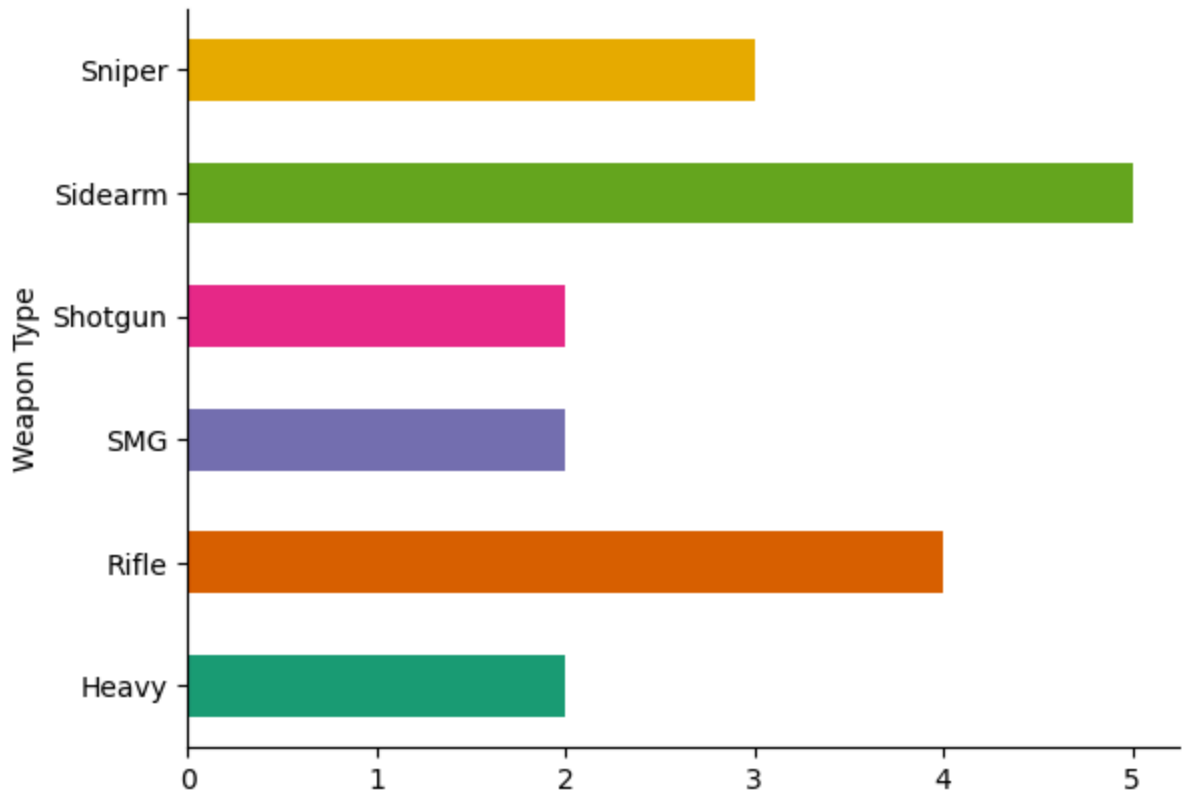
What is the most expensive gun in the game?

In [47]:
```
weapon_price = weapon_stats[['Name', 'Price']].sort_values(by='Price', ascending=Fa
weapon_price
```

Out[47]:

	Name	Price
12	Operator	4700
16	Odin	3200
9	Phantom	2900
10	Vandal	2900
17	Outlaw	2400
8	Guardian	2250
7	Bulldog	2050
14	Judge	1850
6	Spectre	1600
15	Ares	1600
5	Stinger	1100
11	Marshall	950
13	Bucky	850
4	Sheriff	800
3	Ghost	500
2	Frenzy	450
1	Shorty	300
0	Classic	0

In [49]:
```python
sns.catplot(kind='bar', data=weapon_price, x='Name', y='Price')
plt.xticks(rotation=90)
plt.show()
```
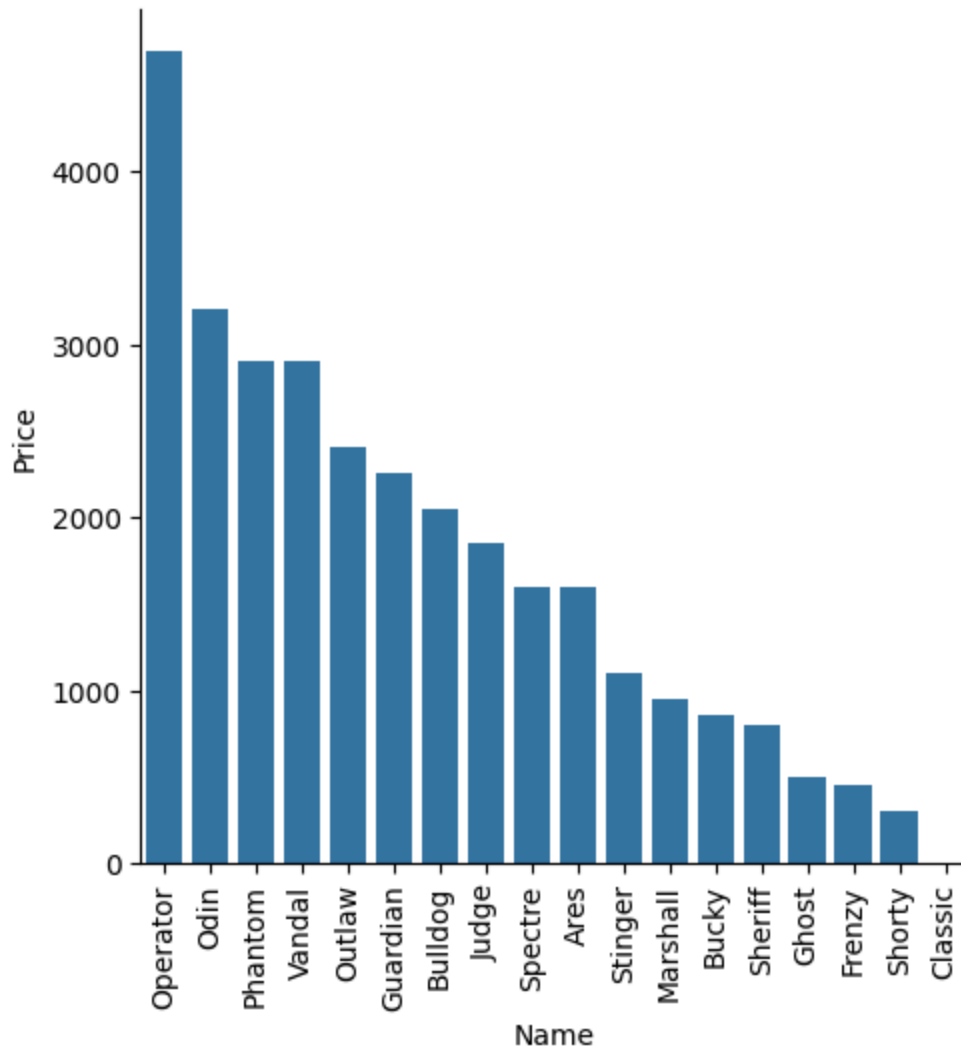
Which weapon has the highest close range damage?

In [101...
```
close_damage = weapon_stats[['Name', 'Weapon Type','HDMG_0','BDMG_0','LDMG_0']].sor
close_damage
```
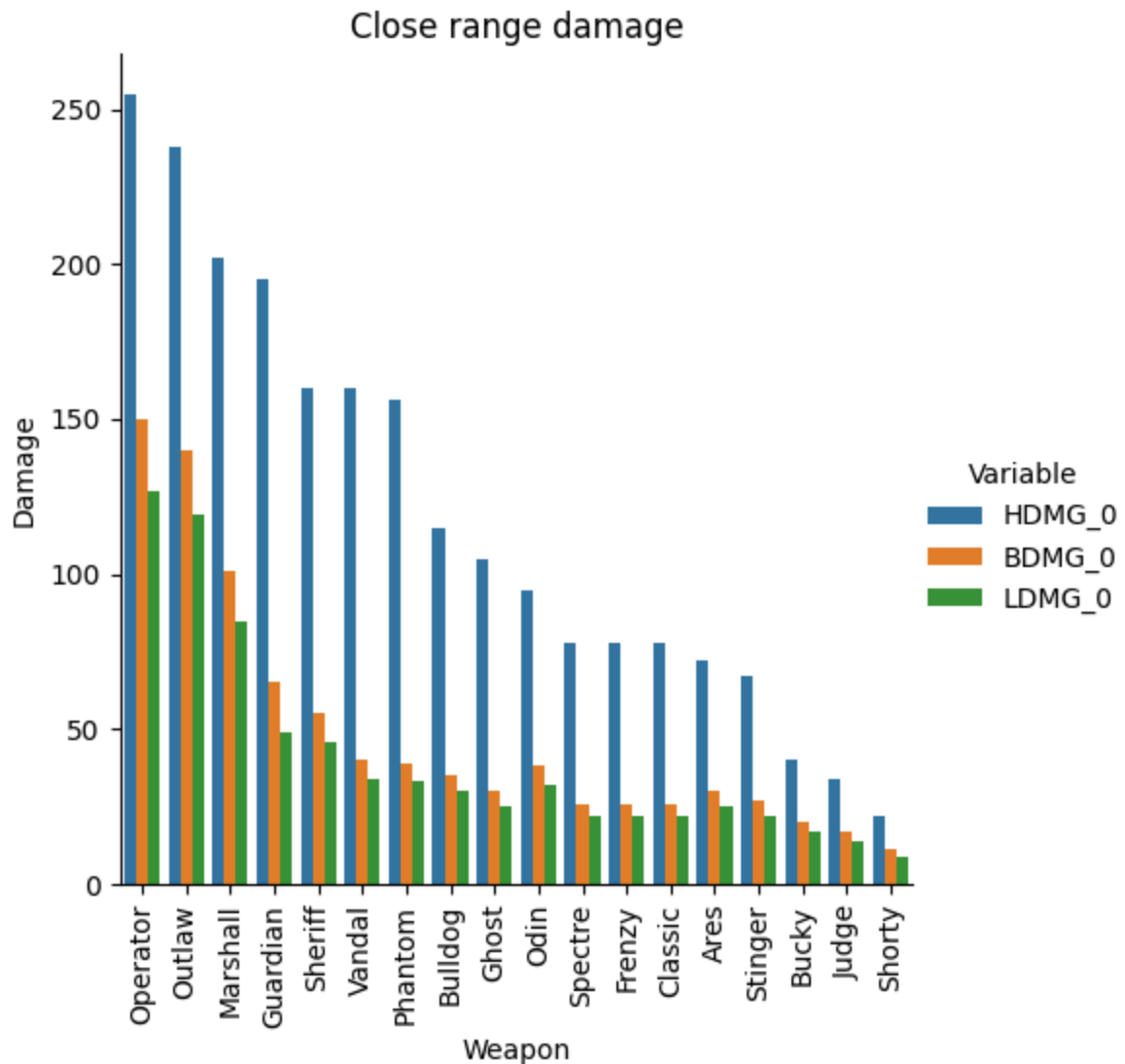
Out[101…

	Name	Weapon Type	HDMG_0	BDMG_0	LDMG_0
12	Operator	Sniper	255	150	127
17	Outlaw	Sniper	238	140	119
11	Marshall	Sniper	202	101	85
8	Guardian	Rifle	195	65	49
4	Sheriff	Sidearm	160	55	46
10	Vandal	Rifle	160	40	34
9	Phantom	Rifle	156	39	33
7	Bulldog	Rifle	115	35	30
3	Ghost	Sidearm	105	30	25
16	Odin	Heavy	95	38	32
6	Spectre	SMG	78	26	22
2	Frenzy	Sidearm	78	26	22
0	Classic	Sidearm	78	26	22
15	Ares	Heavy	72	30	25
5	Stinger	SMG	67	27	22
13	Bucky	Shotgun	40	20	17
14	Judge	Shotgun	34	17	14
1	Shorty	Sidearm	22	11	9

In [102…

```python
close_damage = pd.melt(close_damage, id_vars =['Name', 'Weapon Type'], value_vars =

sns.catplot(data=close_damage, x='Name', y='Value', hue='Variable', kind='bar')
plt.xticks(rotation=90)
plt.title('Close range damage')
plt.xlabel('Weapon')
plt.ylabel('Damage')
plt.show()
```

Close range damage

Which weapon has the highest medium range damage?

```
In [103…   med_damage = weapon_stats[['Name', 'Weapon Type','HDMG_1','BDMG_1','LDMG_1']].sort_
           med_damage
```

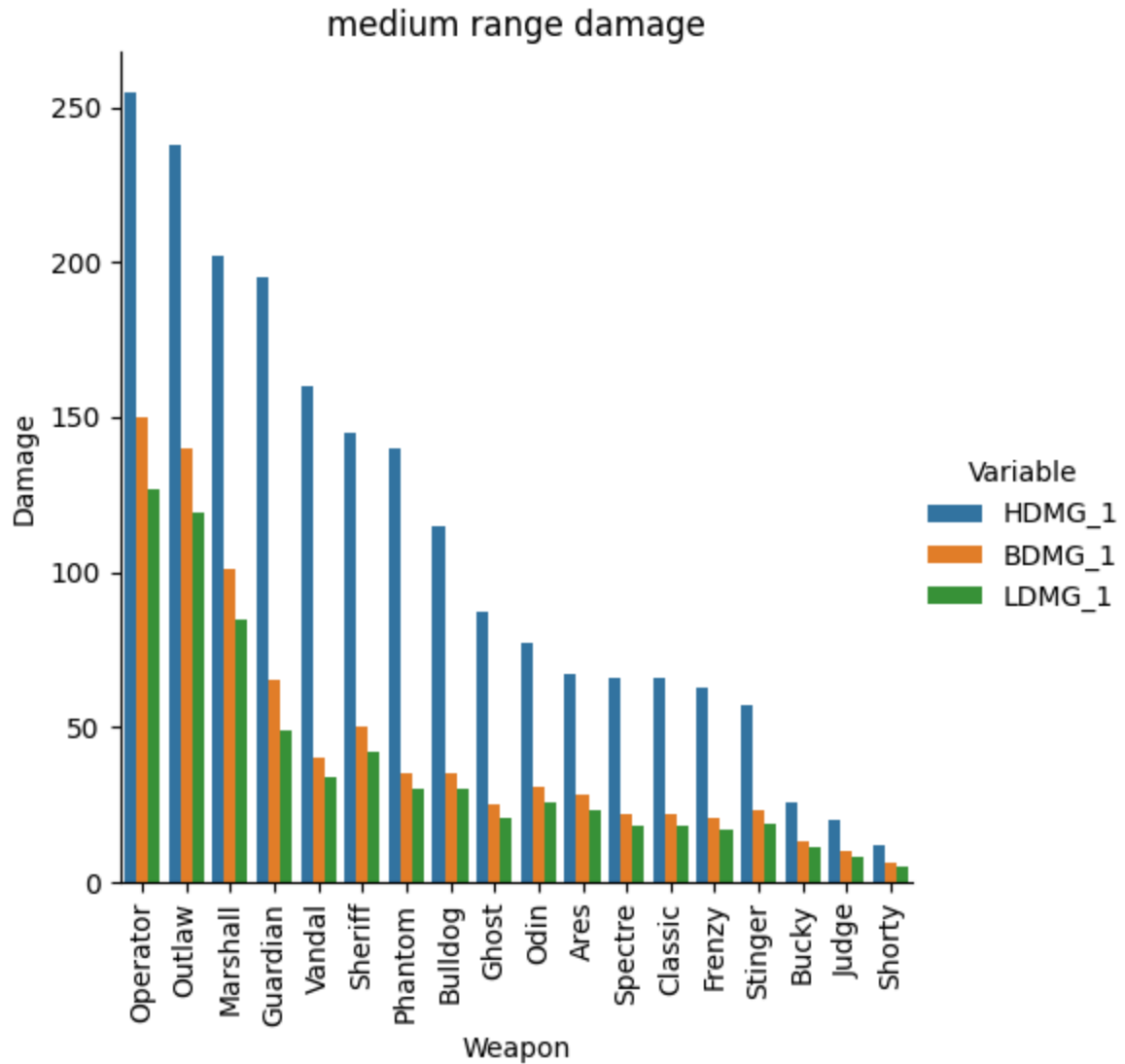Out[103…

	Name	Weapon Type	HDMG_1	BDMG_1	LDMG_1
12	Operator	Sniper	255	150	127
17	Outlaw	Sniper	238	140	119
11	Marshall	Sniper	202	101	85
8	Guardian	Rifle	195	65	49
10	Vandal	Rifle	160	40	34
4	Sheriff	Sidearm	145	50	42
9	Phantom	Rifle	140	35	30
7	Bulldog	Rifle	115	35	30
3	Ghost	Sidearm	87	25	21
16	Odin	Heavy	77	31	26
15	Ares	Heavy	67	28	23
6	Spectre	SMG	66	22	18
0	Classic	Sidearm	66	22	18
2	Frenzy	Sidearm	63	21	17
5	Stinger	SMG	57	23	19
13	Bucky	Shotgun	26	13	11
14	Judge	Shotgun	20	10	8
1	Shorty	Sidearm	12	6	5

In [105…

```python
close_damage = pd.melt(med_damage, id_vars =['Name', 'Weapon Type'], value_vars =['

sns.catplot(data=close_damage, x='Name', y='Value', hue='Variable', kind='bar')
plt.xticks(rotation=90)
plt.title('medium range damage')
plt.xlabel('Weapon')
plt.ylabel('Damage')
plt.show()
```

medium range damage

Which weapon has the highest damage in long range?

```
In [109…    far_damage = weapon_stats[['Name', 'Weapon Type','HDMG_2','BDMG_2','LDMG_2']].sort_
            far_damage
```

Out[109…

	Name	Weapon Type	HDMG_2	BDMG_2	LDMG_2
12	Operator	Sniper	255	150	127
17	Outlaw	Sniper	238	140	119
11	Marshall	Sniper	202	101	85
8	Guardian	Rifle	195	65	49
4	Sheriff	Sidearm	145	50	42
10	Vandal	Rifle	160	40	34
7	Bulldog	Rifle	115	35	30
16	Odin	Heavy	77	31	26
9	Phantom	Rifle	124	31	26
15	Ares	Heavy	67	28	23
3	Ghost	Sidearm	87	25	21
5	Stinger	SMG	57	23	19
6	Spectre	SMG	66	22	18
0	Classic	Sidearm	66	22	18
2	Frenzy	Sidearm	63	21	17
13	Bucky	Shotgun	18	9	7
14	Judge	Shotgun	14	7	5
1	Shorty	Sidearm	6	3	2

In [110…

```python
close_damage = pd.melt(far_damage, id_vars =['Name', 'Weapon Type'], value_vars =['

sns.catplot(data=close_damage, x='Name', y='Value', hue='Variable', kind='bar')
plt.xticks(rotation=90)
plt.title('long range damage')
plt.xlabel('Weapon')
plt.ylabel('Damage')
plt.show()
```

long range damage
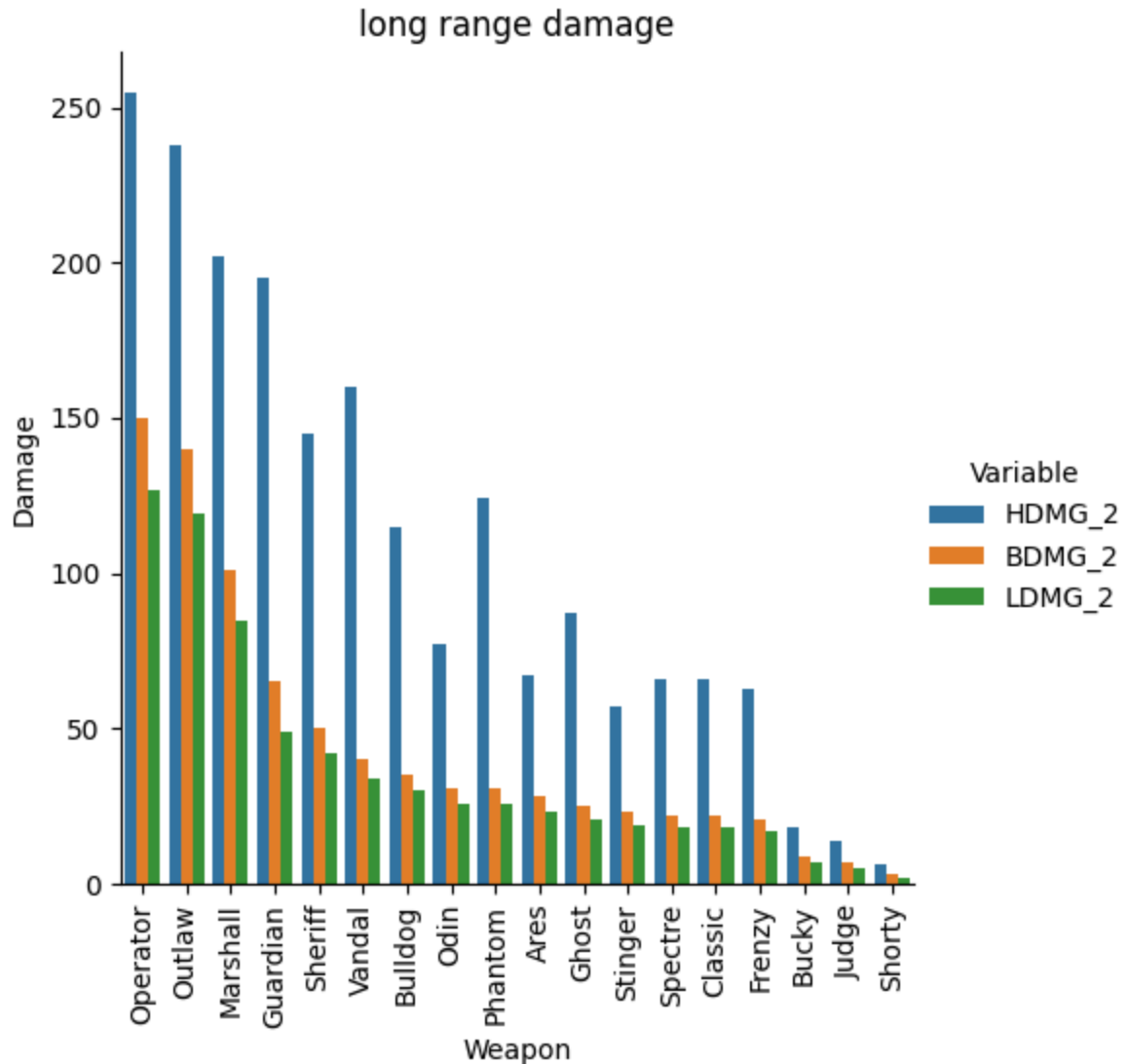
Which gun has the highest magazine capacity?

```
In [64]:  weapon_mag = weapon_stats[['Name', 'Magazine Capacity']].sort_values(by='Magazine C
          weapon_mag
```

Out[64]:

	Name	Magazine Capacity
16	Odin	100
15	Ares	50
9	Phantom	30
6	Spectre	30
10	Vandal	25
7	Bulldog	24
5	Stinger	20
3	Ghost	15
2	Frenzy	13
0	Classic	12
8	Guardian	12
4	Sheriff	6
11	Marshall	5
12	Operator	5
13	Bucky	5
14	Judge	5
1	Shorty	2
17	Outlaw	2

In [66]:
```python
sns.catplot(kind='bar', data=weapon_mag, x='Name', y='Magazine Capacity')
plt.xticks(rotation=90)
plt.show()
```
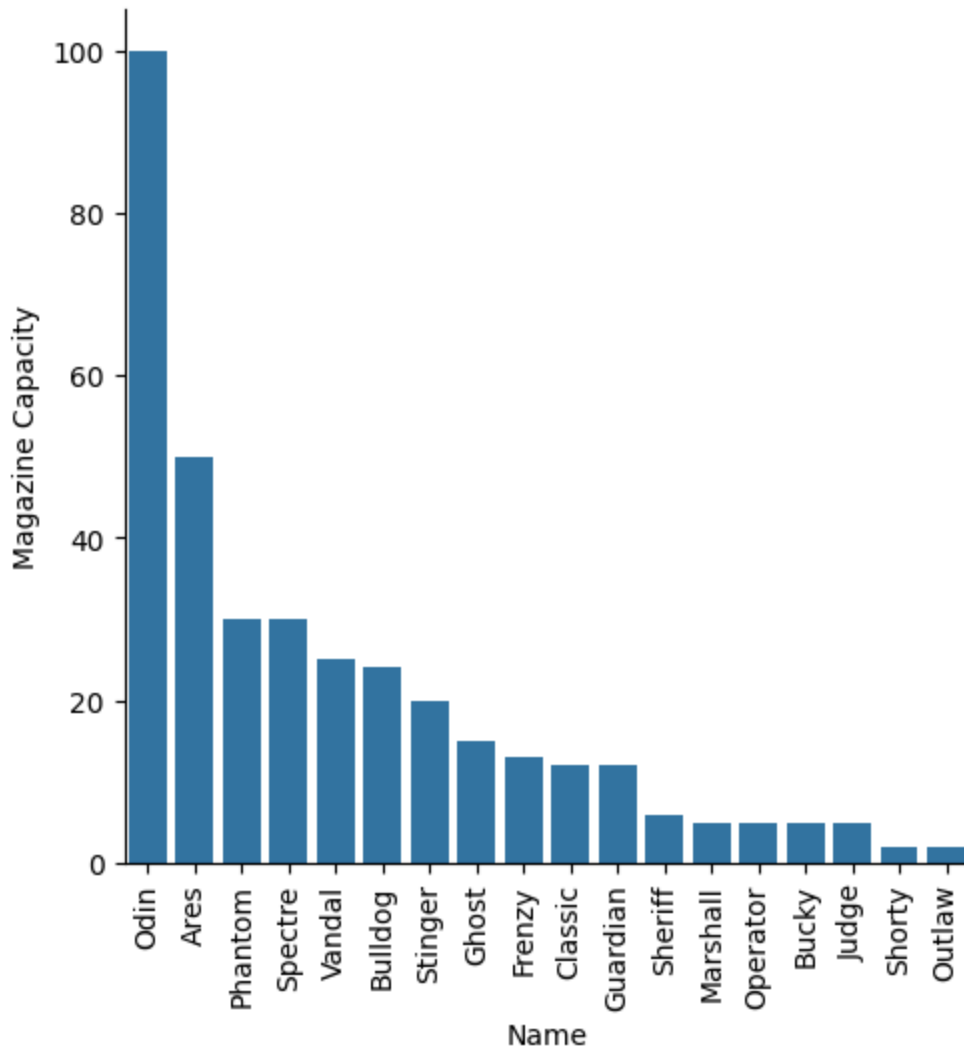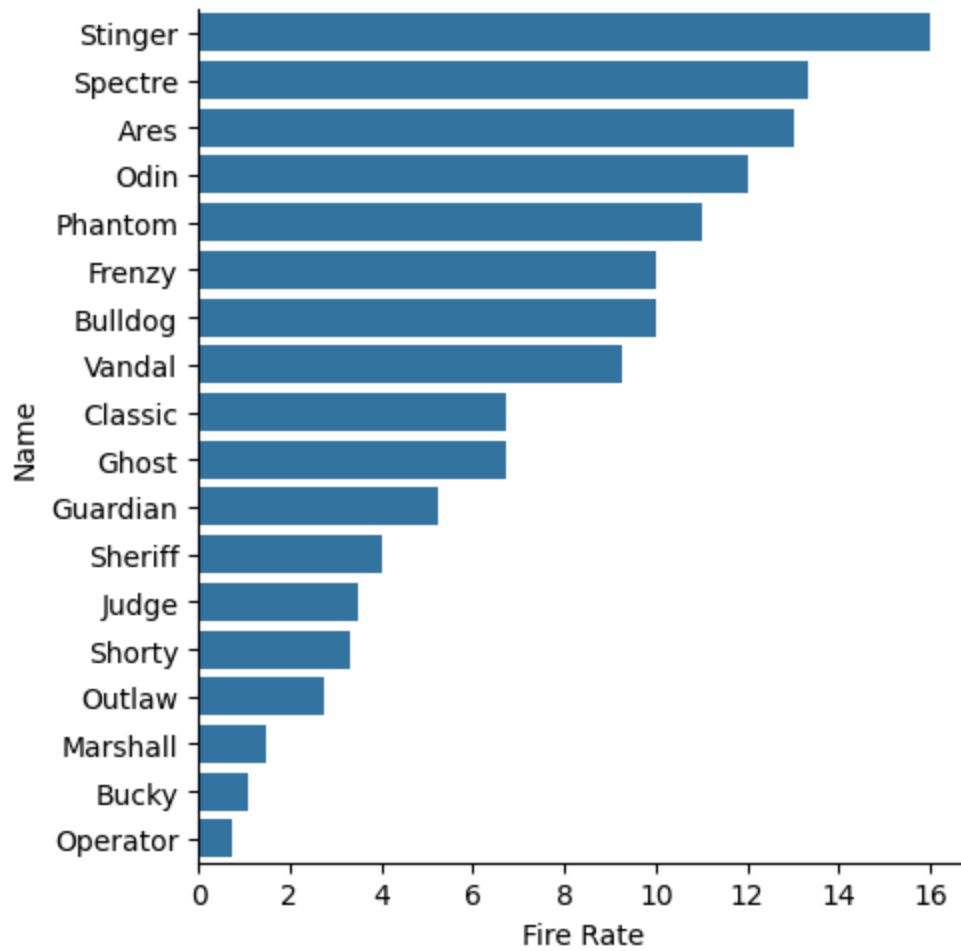
Which gun has the highest firing rate?

In [67]:
```python
fire_rate = weapon_stats[['Name', 'Fire Rate']].sort_values(by='Fire Rate', ascendi
fire_rate.head()
```

Out[67]:

	Name	Fire Rate
5	Stinger	16.00
6	Spectre	13.33
15	Ares	13.00
16	Odin	12.00
9	Phantom	11.00

In [68]:
```python
sns.catplot(data=fire_rate, y='Name', x='Fire Rate', kind='bar')
plt.show()
```

Weapon with high damage low cost

```
In [113…  weapon_damage_cost = weapon_stats[['Name', 'Price', 'HDMG_0', 'HDMG_1', 'HDMG_2']]
          weapon_damage_cost.columns = ['Name', 'Price', 'HD Close', 'HD Mid', 'HD Far']
          weapon_damage_cost = pd.melt(weapon_damage_cost, id_vars=['Name', 'Price'], value_v
```

```
In [114…  weapon_damage_cost['WDC'] = np.round(weapon_damage_cost['Price'] / weapon_damage_co
```

```
In [115…  weapon_damage_cost_sorted = weapon_damage_cost.sort_values(by='WDC')
          sns.catplot(data=weapon_damage_cost_sorted, x='WDC', y='Name', hue='variable', kind
          plt.show()
```
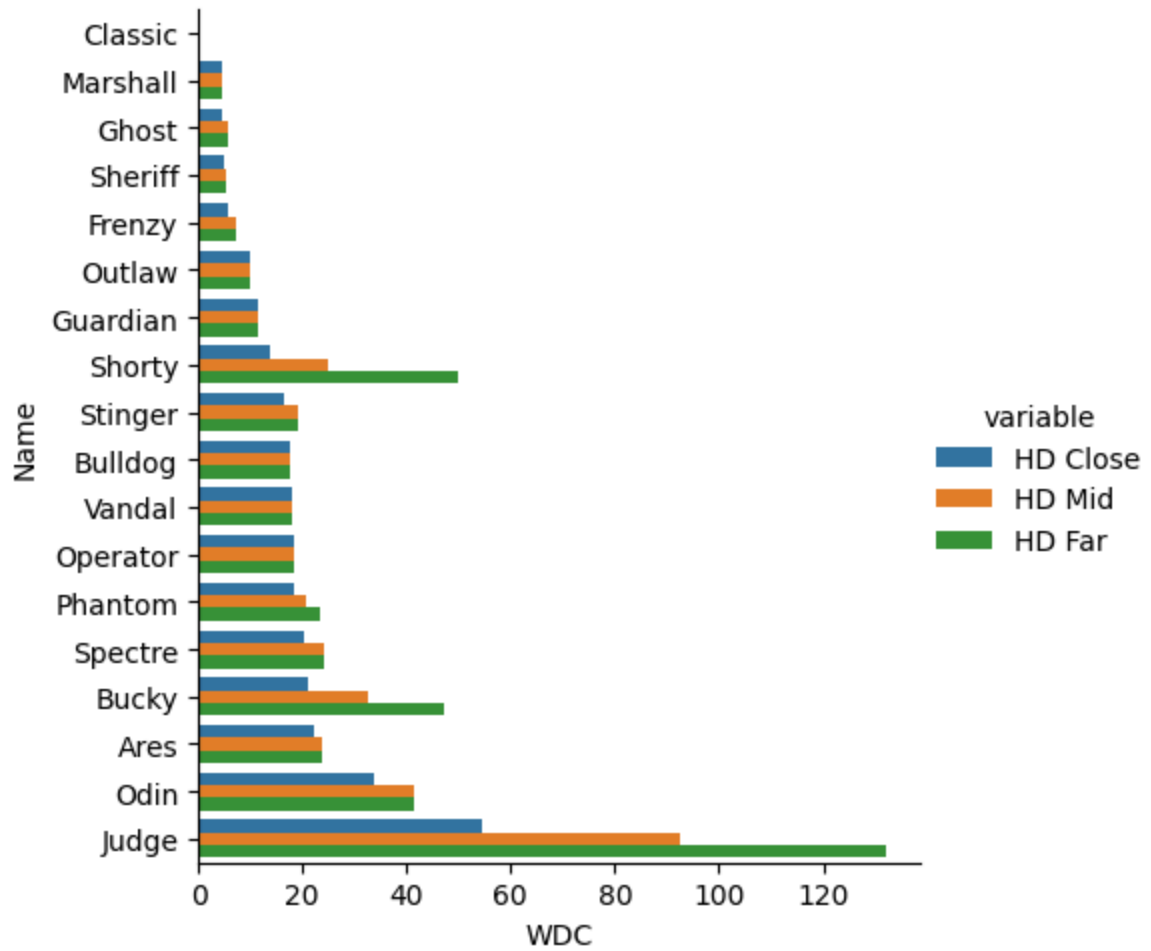
In [116…   `weapon_stats.describe()`

Out[116…

	Price	Fire Rate	Magazine Capacity	HDMG_0	BDMG_0	LDMG_0	HDMG_1
count	18.000000	18.000000	18.000000	18.000000	18.000000	18.000000	18.000000
mean	1688.888889	7.236667	20.055556	119.444444	48.666667	40.722222	110.611111
std	1222.167260	4.729225	23.623200	70.154638	40.639013	34.388448	74.698719
min	0.000000	0.750000	2.000000	22.000000	11.000000	9.000000	12.000000
25%	812.500000	3.372500	5.000000	73.500000	26.000000	22.000000	63.750000
50%	1600.000000	6.750000	12.500000	100.000000	32.500000	27.500000	82.000000
75%	2362.500000	10.750000	24.750000	160.000000	51.250000	43.000000	156.250000
max	4700.000000	16.000000	100.000000	255.000000	150.000000	127.000000	255.000000