RANDOM INTERGER

In [3]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

np.random.seed(42)
```

In [4]:
```
test=np.random.randint(10,1000,60)
print(test[:20])
```

```
[112 445 870 280 116  81 710  30 624 131 476 224 340 468  97 382 109 881
 673 140]
```

In [5]:
```
import statistics
```

In [6]:
```
mean=test.mean()
print("mean:", mean)
```

```
mean: 483.5
```

In [7]:
```
mean=np.mean(test)
print(mean)
```

```
483.5
```

In [8]:
```
median=np.median(test)
print("median:", median)
```

```
median: 480.0
```

In [9]:
```
variance=np.var(test)
print(variance)
```

```
79645.45
```

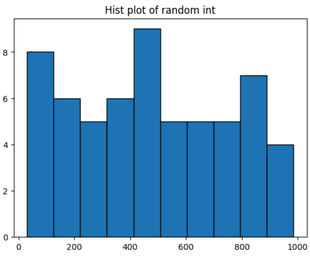
In [10]:
```
std=np.std(test)
print(std)
```

```
282.2152547258918
```

In [11]:
```
import numpy as np
q1=np.percentile(test,25)
q3=np.percentile(test,75)
iqr=q3-q1
iqr
```

Out[11]:
```
np.float64(463.5)
```

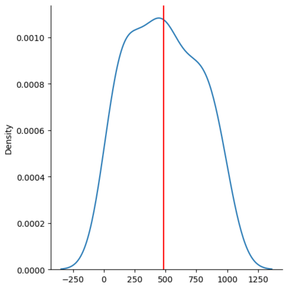
In [22]:
```
plt.hist(test ,edgecolor="black")
plt.title("Hist plot of random int")
plt.show()
```



In [ ]:
```

```

In [13]:
```
sns.displot(test, kind="kde")
plt.axvline(test.mean(),color="red")
plt.show()
```



Normal distribution

In [14]:
```
test_normal=np.random.normal(45,12,1000)
test_normal=np.clip(test_normal,10,80)
test_normal[:100]
```

Out[14]:
```
array([38.69852579, 67.95325526, 20.67936461, 58.43308334, 54.35031161,
       31.78682692, 58.56273833, 49.47742698, 40.36232459, 31.0947571 ,
       51.79335392, 36.5465586 , 28.46472835, 40.76260018, 39.46241138,
       45.79988734, 42.88457206, 59.41071326, 53.3807873 , 42.94045398,
       34.11376104, 59.26350872, 54.42638549, 76.8721211 , 48.16183248,
       64.70125339, 50.5297956 , 46.03108166, 26.88051261, 53.65802955,
       34.87896092, 38.84009514, 44.47755837, 41.69638908, 26.24319846,
       35.45242809, 56.16701281, 53.13320892, 53.38128311, 47.08322476,
       52.94741416, 47.89346595, 42.98153894, 58.97722375, 42.05102775,
       35.76398672, 59.54606811, 59.80196165, 26.11013656, 52.65543532,
       20.46692374, 57.83377063, 33.79484591, 54.41049825, 37.62149089,
       48.99470929, 28.43139571, 41.6303245 , 44.28219284, 56.5340852 ,
       66.53137012, 51.9682745 , 48.57180538, 32.66261075, 27.97684244,
       47.28404382, 46.62904595, 52.29707594, 53.45977574, 49.33108053,
       27.39638538, 55.71155366, 43.73691439, 33.53584266, 40.02282439,
       28.21510942, 40.8710335 , 54.00943063, 41.0684978 , 34.66082335,
       41.90178242, 50.53146739, 28.80732032, 32.77112658, 46.52414687,
       30.00667533, 68.34138737, 43.15996251, 34.1161533 , 35.19175014,
       39.20252785, 38.16205982, 19.90080396, 60.16488637, 44.81419992,
       44.67148265, 54.81448215, 32.34474637, 35.90007455, 50.48898778])
```

In [15]:
```
print("mean:",np.mean(test_normal))
```

```
mean: 45.56443997557767
```

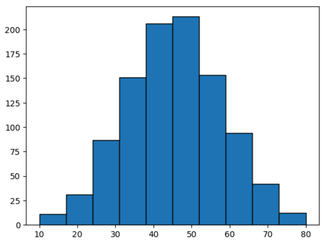
In [16]:
```
print("median:",np.median(test_normal))
```

```
median: 45.60249179061336
```

In [17]:
```
print("std:",np.std(test_normal))
```

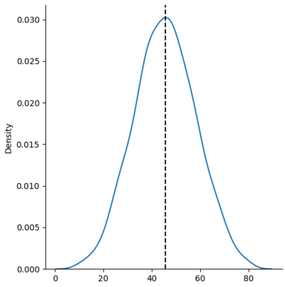
```
std: 12.637463559861887
```

In [18]:
```
plt.hist(test_normal,edgecolor="black")
plt.show()
```

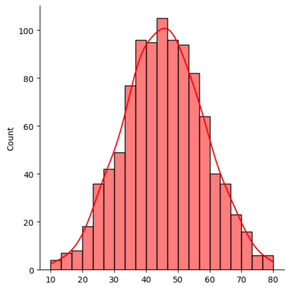


In [19]:
```
sns.displot(test_normal, kind="kde")
plt.axvline(test_normal.mean(),color="black",lw="--")
```

Out[19]:
```
<matplotlib.lines.Line2D at 0x21cefc63d90>
```



In [20]:
```
sns.displot(test_normal, kde=True,color="red")
plt.show()
```



In [ ]: