In [12]:
```
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
np.random.seed(123)
```

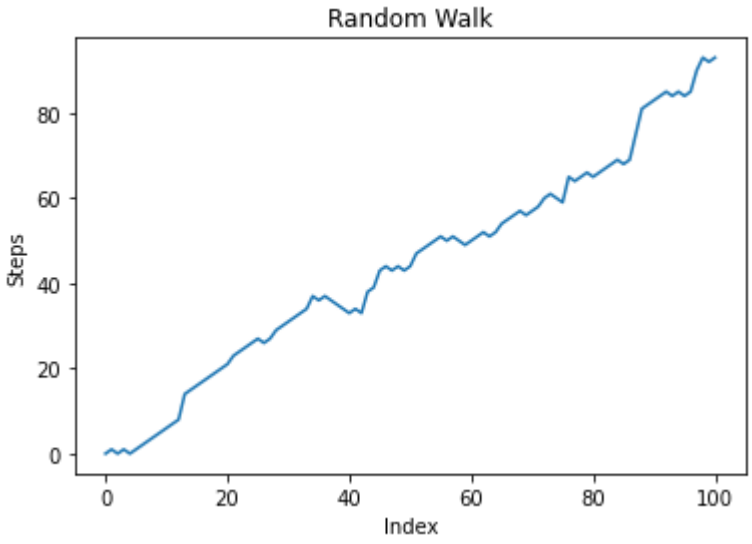
Main Code

In [29]:
```
random_walk = [0]
all_walks = []
for i in range(500) :
    random_walk = [0]
    for x in range(100) :
        step = random_walk[-1]
        dice = np.random.randint(1,7)
        if dice <= 2:
            step = max(0, step - 1)
        elif dice <= 5:
            step = step + 1
        else:
            step = step + np.random.randint(1,7)
        if np.random.rand() <= 0.001 :
            step = 0
        random_walk.append(step)
    all_walks.append(random_walk)


#np_aw = np.array(all_walks)
#plt.plot(np_aw)
```

In [30]:
```
plt.xlabel('Index')
plt.ylabel('Steps')
plt.title('Random Walk')
plt.plot(random_walk)
```

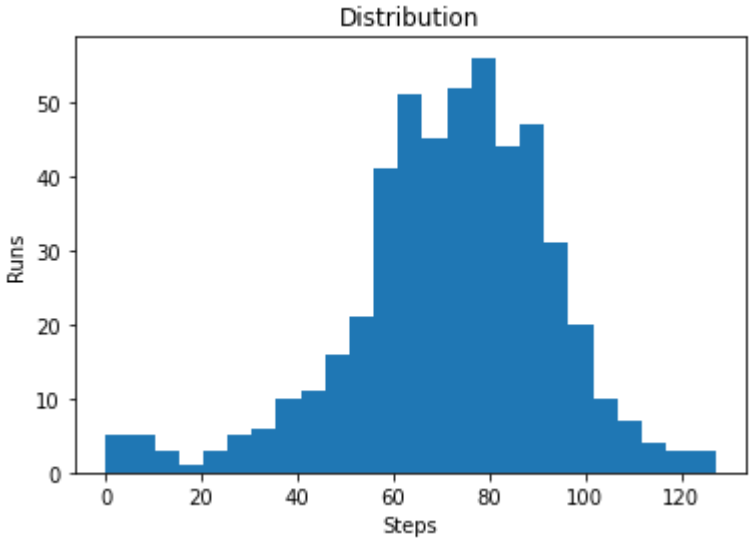
Out[30]:
```
[<matplotlib.lines.Line2D at 0x1624427db50>]
```



In [31]:
```
# Create and plot np_aw_t
np_aw_t = np.transpose(np.array(all_walks))

# Select last row from np_aw_t: ends
ends = np_aw_t[-1]
```

In [32]:
```
# Plot histogram of ends, display plot
plt.xlabel('Steps')
plt.ylabel('Runs')
plt.title('Distribution')
plt.hist(ends, bins = 25)
plt.show()
```



In [ ]: