In [ ]:

```
Using Monte Carlos Simulation to project Companies future  Revenue and Expenditure
```

In [1]:

```
import numpy as np
import matplotlib.pyplot as plt
```

REQUIREMENTS:

-Expected Revenue (rev_m)=170million Euro

-Standard deviation of revenue(rev_std)=20million Euro

-Iterations=1000

-Cost of good sold(COGS)

- 60% of revenue for cost of good
- 10% deviation

In [3]:

```
rev_m=170
rev_std=20
iterations=1000
```

In [4]:

```
rev=np.random.normal(rev_m,rev_std,iterations)
```

In [6]:

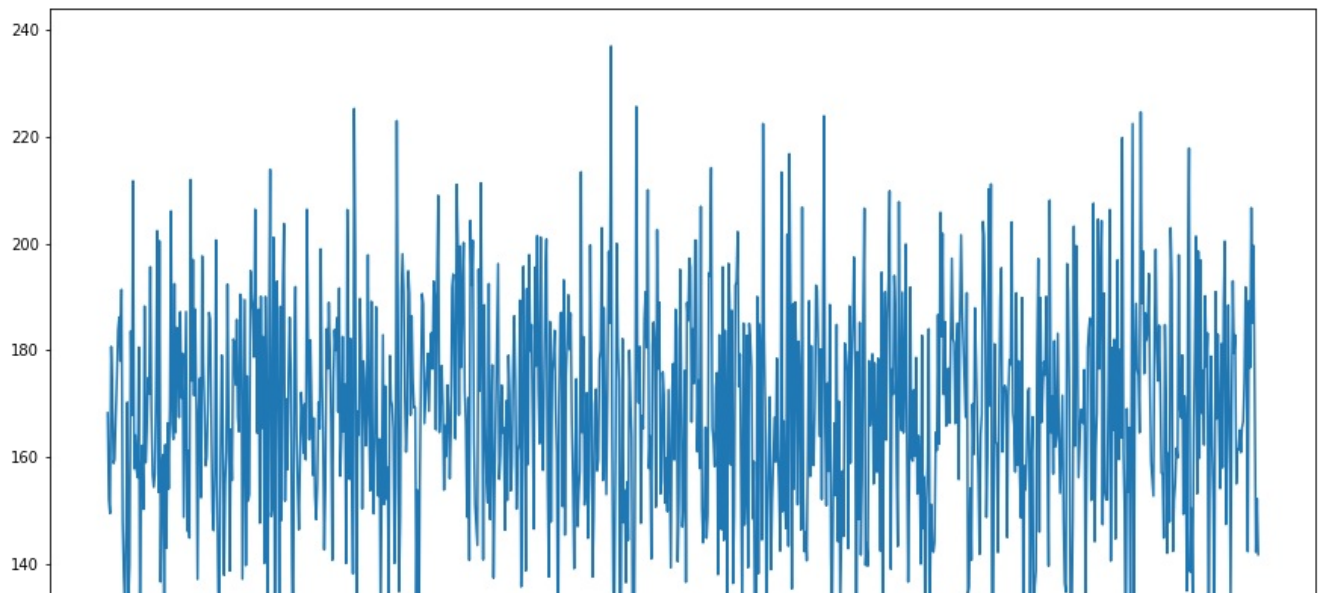
```
#rev
```

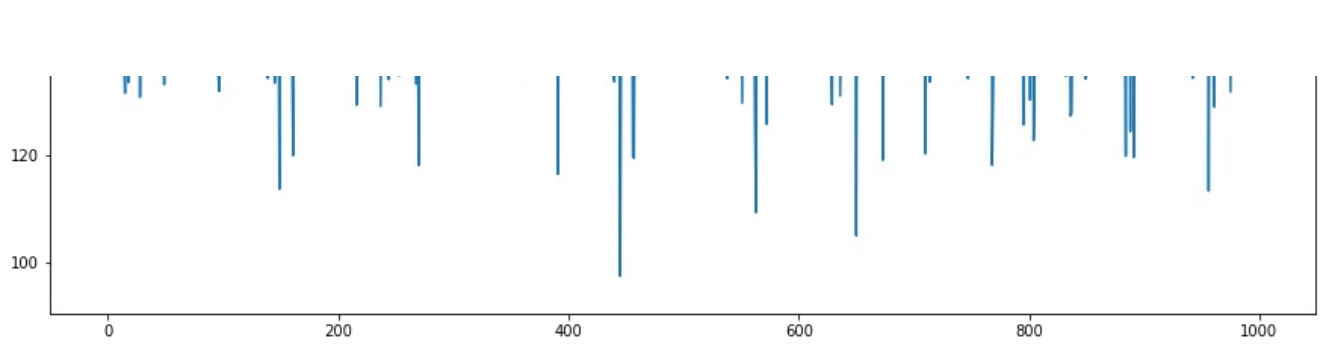
In [9]:

```
plt.figure(figsize=(15,10))
plt.plot(rev)
```

Out[9]:

```
[<matplotlib.lines.Line2D at 0x21c8b67f1c8>]
```





In [10]:

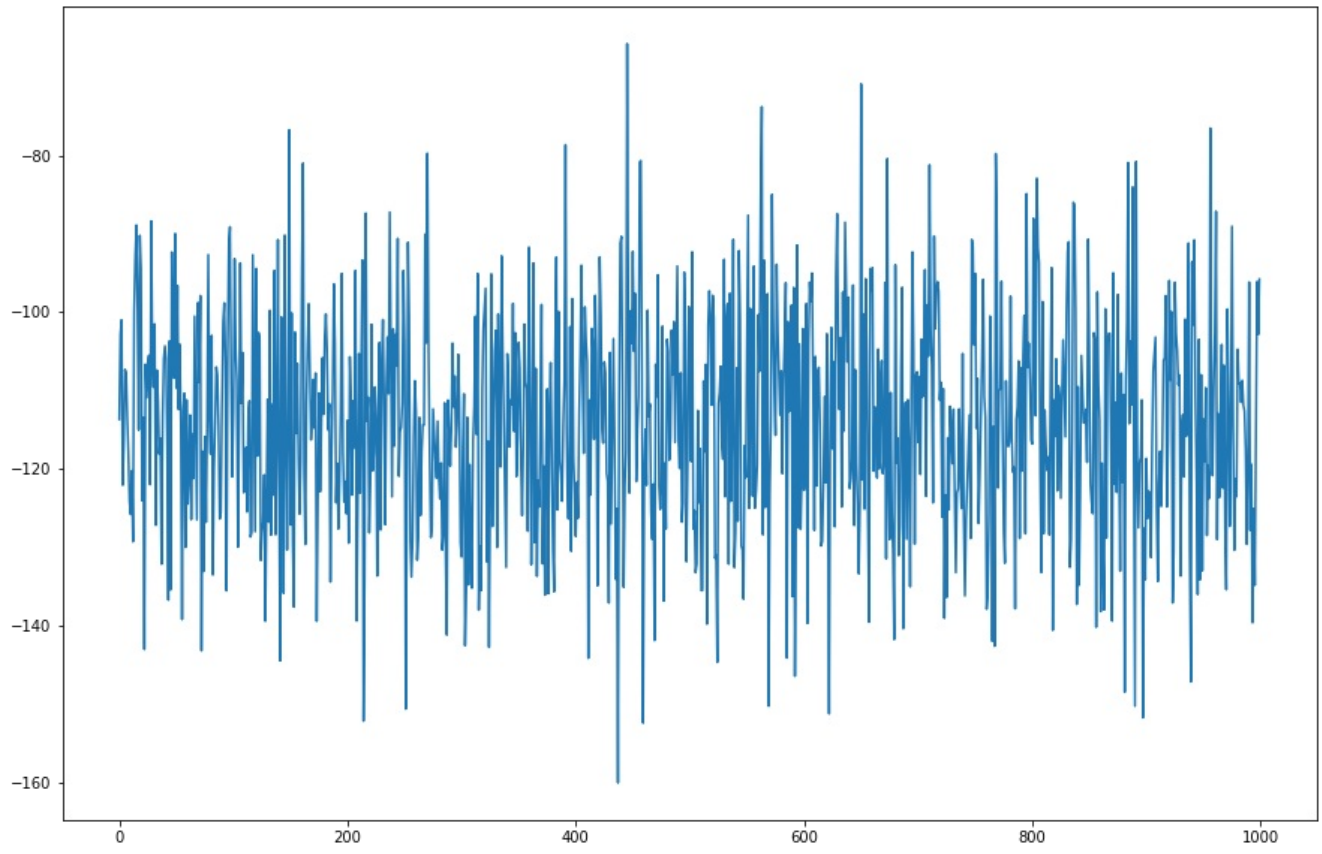
```
COGS=-(rev*np.random.normal(0.6,0.1))
```

In [11]:

```
plt.figure(figsize=(15,10))
plt.plot(COGS)
```

Out[11]:

```
[<matplotlib.lines.Line2D at 0x21c8b447248>]
```



In [12]:

```
COGS.mean()
```

Out[12]:

```
-113.96001317449145
```

In [13]:

```
COGS.std()
```

Out[13]:

```
14.013396261888222
```

GROSSPROFIT:

In [15]:

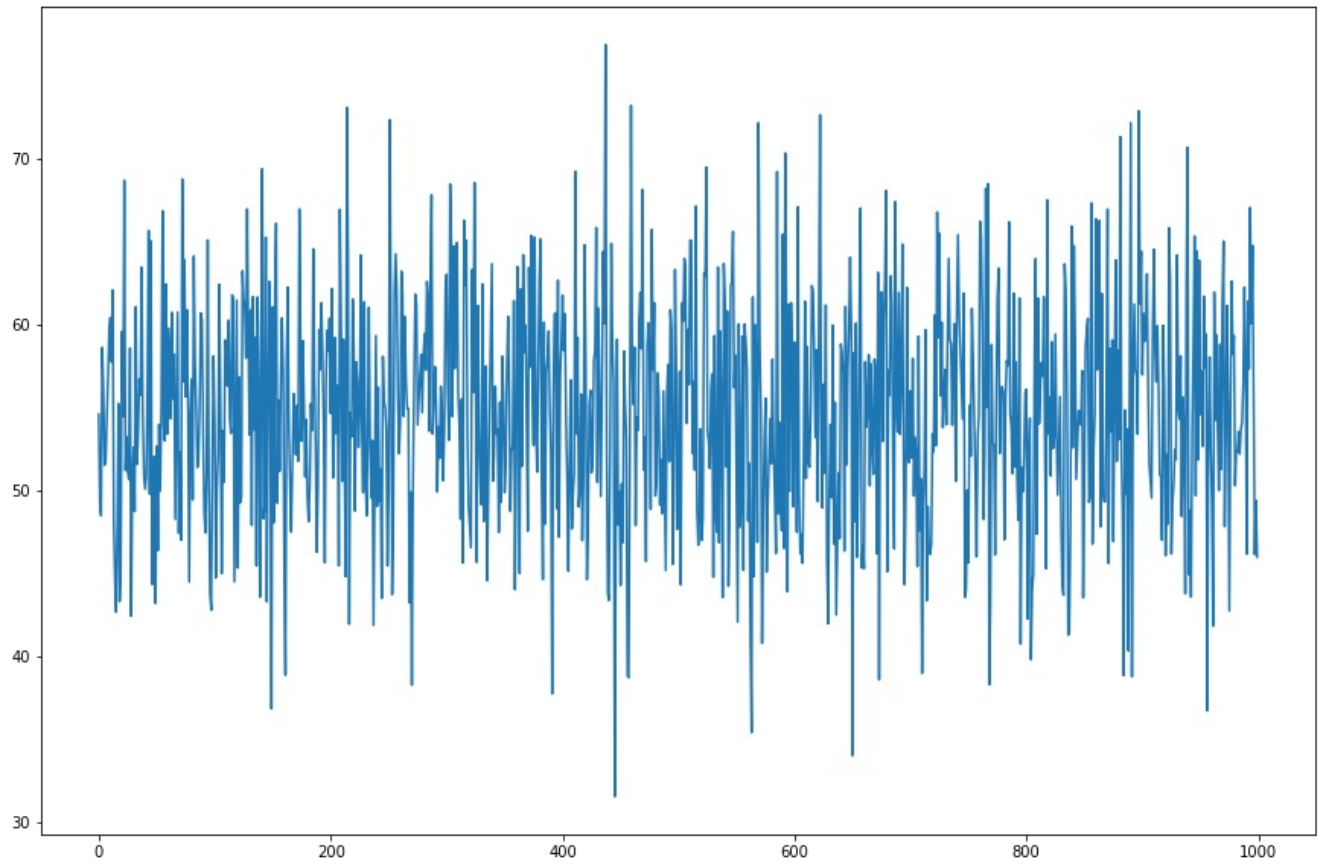
```
Gross_profit=rev+COGS
#Gross_profit
```

In [16]:

```
plt.figure(figsize=(15,10))
plt.plot(Gross_profit)
```

Out[16]:

```
[<matplotlib.lines.Line2D at 0x21c8a665c88>]
```



In [17]:

```
max(Gross_profit)
```

Out[17]:

```
76.89420328857716
```

In [18]:

```
min(Gross_profit)
```

Out[18]:

```
31.59150068646116
```

In [19]:

```
Gross_profit.mean()
```

Out[19]:

```
54.75157613750234
```

In [20]:

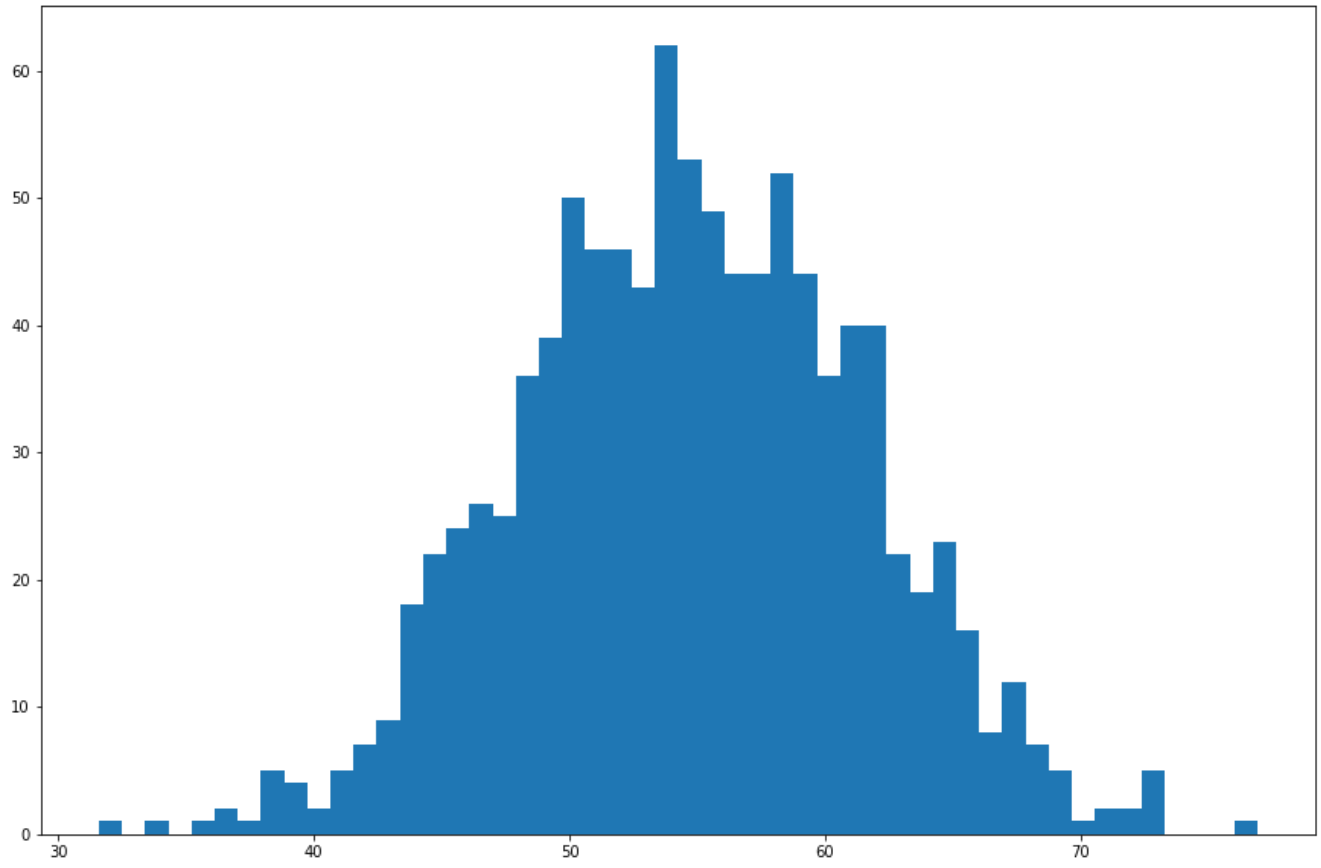
```
Gross_profit.std()
```

Out[20]:

```
6.732673250949609
```

In [23]:

```
plt.figure(figsize=(15,10))
plt.hist(Gross_profit,bins=50);
```



In [ ]:

```

```