$$\xi \sim Pois(\lambda) \implies E\xi = \lambda$$

$$N_t - N_s \sim Pois(\lambda(t - s)) \text{ и } (N_t - N_s)\perp N_s$$

$$E(N_t|N_s) = E(N_t - N_s|N_s) + E(N_s|N_s) = E(N_t - N_s) + N_s = \lambda(t - s) + N_s$$

$$t_0 = 1, t = 60.$$

In [49]:

```python
file_name = '496 Зотов Алексей.txt'
file = open(file_name , 'r')
data = list(map(float, file.readlines()))
file.close()
t = 60
lb = data[0]
failed_time = data[1:]
```

In [51]:

```python
NS = [len([0 for time in failed_time if time <= s]) for s in range(t+1)]
print("t||E(N_t|N_s)")
print("_____")
for s in range(t + 1) :
    exp = lb*(t - s) + NS[s]
    print("%d||%.3f" % (s , exp))
```

```
t||E(N_t|N_s)
_____
0||20.100
1||21.765
2||21.430
3||22.095
4||21.760
5||21.425
6||22.090
7||22.755
8||22.420
9||22.085
10||22.750
11||22.415
12||23.080
13||22.745
14||22.410
15||22.075
16||21.740
17||22.405
18||23.070
19||23.735
20||23.400
21||23.065
22||22.730
23||23.395
24||24.060
25||23.725
```

```
26||23.390
27||23.055
28||22.720
29||23.385
30||23.050
31||22.715
32||22.380
33||22.045
34||21.710
35||21.375
36||21.040
37||21.705
38||22.370
39||23.035
40||22.700
41||22.365
42||22.030
43||21.695
44||23.360
45||23.025
46||22.690
47||23.355
48||23.020
49||22.685
50||22.350
51||23.015
52||23.680
53||24.345
54||26.010
55||25.675
56||27.340
57||27.005
58||26.670
59||26.335
60||27.000
```