In[1]:=
```
x[0] = N[4 / 5, 100];
x[n_] := x[n - 1] - 1 + 2 / E^x[n - 1]
```

In[3]:=
```
x[0]
```

Out[3]=
```
0.80000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
```

In[4]:=
```
x[1]
```

Out[4]=
```
0.69865792823444318286020477003112559186842988254436898179597866886758151017413736776477240632747932 9
```

In[5]:=
```
x[2]
```

Out[5]=
```
0.69316233687625238156198474701515383356735034867010818140054823144445445488296096272350482283011941 2
```

In[6]:=
```
x[3]
```

Out[6]=
```
0.69314718067480169114995926238691858060240707618862184028262594225315833769495782444747481754665474 3
```

In[7]:=
```
x[4]
```

Out[7]=
```
0.69314718055994530942382811567029100583511671037872815850867771121444087172125399223522860432169163
```

In[9]:=
```
x[5]
```

Out[9]=
```
0.69314718055994530941723212145817656807552188793007837770195203339534425823259006668641068032333026
```

In[10]:=
```
x[6]
```

Out[10]=
```
0.69314718055994530941723212145817656807550013436025525412068000949339362196969471584247222702117 51
```

In[11]:=
```
x[7]
```

Out[11]=
```
0.69314718055994530941723212145817656807550013436025525412068000949339362196969471560586332699641 87
```

In[8]:=
```
x[10]
```

Out[8]=
```
0.69314718055994530941723212145817656807550013436025525412068000949339362196969471560586332699641 9
```