Python seminar Homework for Chap. 4.5 (Ricker model)

1. Please make a simulation of fish population based on the Ricker model, and draw a scatter diagram between biomass and catch.
In the Ricker model, biomass change is defined as

$$B_{t+1} = B_t r\left(1 - \frac{B_t}{K}\right)$$

where t is year, B is biomass (number of fish), r is growth rate, and K is carrying capacity. Now we assume that r = 1.3 and K = 100000.0.
Initial condition is B = 5000 in t=1920. Assume there is fishing exploitation which is defined as

$$F_t = \left(0.25 + 0.24sin\left(\frac{6\pi(t - 1920)}{100}\right)\right)B_t$$