

Coffee shop

A coffee shop wants to know how many baristas they should employ. The shop is open from 8am to 2pm, Monday to Friday (both included). The average number of customers they get depends on whether it's a "normal" or a busy day. They estimate that roughly 20% of the days are busy days.

The average number of customers they get also depends on the time of day:

Time	Avg # customers (normal)	Avg # customers (busy)
8am-9am	45	62
9am-10am	40	55
10am-11am	35	43
11am-12pm	33	42
12pm-1pm	27	30
1pm-2pm	16	23

Answer the following questions using simulation:

- 1) Assume that there is a very busy week, where all the days are busy days. Find the expected number of customers they get that week.
- 2) A barista can serve approximately 20 customers per hour. How many baristas should they get if they want to make sure that they can handle busy days well?
- 3) What is the average number of customers they get in a day?
- 4) Given what you learned in parts 1 and 3, how many baristas would you hire?