

### FRESHER PIZZA CORNER - 2

Fresher Pizza corner is the new Pizza place in town. It prides itself in high quality pizza using the best mozzarella cheese, Original black olives imported from Italy, Tomato sauce from Spain. It also prides itself in timely delivery of 30 minutes to any location in areas Begumpet, Ameerpet, Khairatabad and Punjagutta.

Fresher Pizza has well trained pizza making staff and each pizza is prepared as follows.

The pizza base is rolled with fresh pizza flour, a generous amount of sauce spread on it. The choicest vegetables and meats spread on top of the pizza and a copious amount of Mozarella cheese spread on top. The pizza is then run through a rolling oven at a perfect 170 degrees C for 10 full minutes.

The pizza preparation time before baking is **3 mins** for a trained staff member. Fresher Pizza has 4 delivery drivers.

The delivery process is broken into three components. First one is the driving time after which the delivery is considered made. The second time is the amount taken to receive payment from the customer and the third time is to drive back to the pizza joint to take the next delivery. The return journey time may be different considering traffic and one way driving routes. Any driver can take any route as required.

- Delivery to area “Ameerpet” takes **6 mins + 1 Mins + 8 mins**
- Delivery to area “Punjagutta” takes **5 mins + 1 Mins + 7 Mins**
- Delivery to area “Begumpet” takes **6 mins + 2 mins + 4 mins**
- Delivery to area “Khairatabad” takes **8 mins + 2 mins + 8 mins**

The oven imported from Italy by Fresher Pizza is wide enough to take two Pizzas of any size, side by side. The length of the oven is large enough to accommodate 5 such sets. Since this is a rolling oven, the prepared pizza is put into the oven at one ending and it slowly rolls out of the other end exactly after 10 minutes. That means, you can push two pizzas into the oven every two minutes.

On a day, starting at 6:00 PM, orders are received every 2 minutes for 30 minutes (06:30 PM); each call placing order for “N” pizzas. “N” is calculated as 1 + remainder of the order received time (Only consider the minutes) divided by 3. First order is for Begumpet, second for Punjagutta, third for Khairatabad and fourth for Ameerpet. The areas keep rotating in the same order. All orders received during that time are for delivery only.

You got to solve the following & draw a flowchart

- 1) In the last call, what is the number of pizzas ordered, the area of delivery and what would be the time of delivery if Freshers pizza works only with two pizza setting staff, one oven and 4 delivery drivers? Note that the pizza making process starts only after a call is received.
- 2) If the pizza MUST be delivered in less than 30 mins from the time of the call, how many more people are required for setting the pizza, how many more ovens are required and how many more delivery boys are required?