Guesstimates-Assignment

Guesstimate Problem 1: "Estimate the total cost involved in painting the metro pillars in Chennai."

Guesstimate Problem 2: "Estimate the number of Uber cars plying on Bangalore roads in a day?"
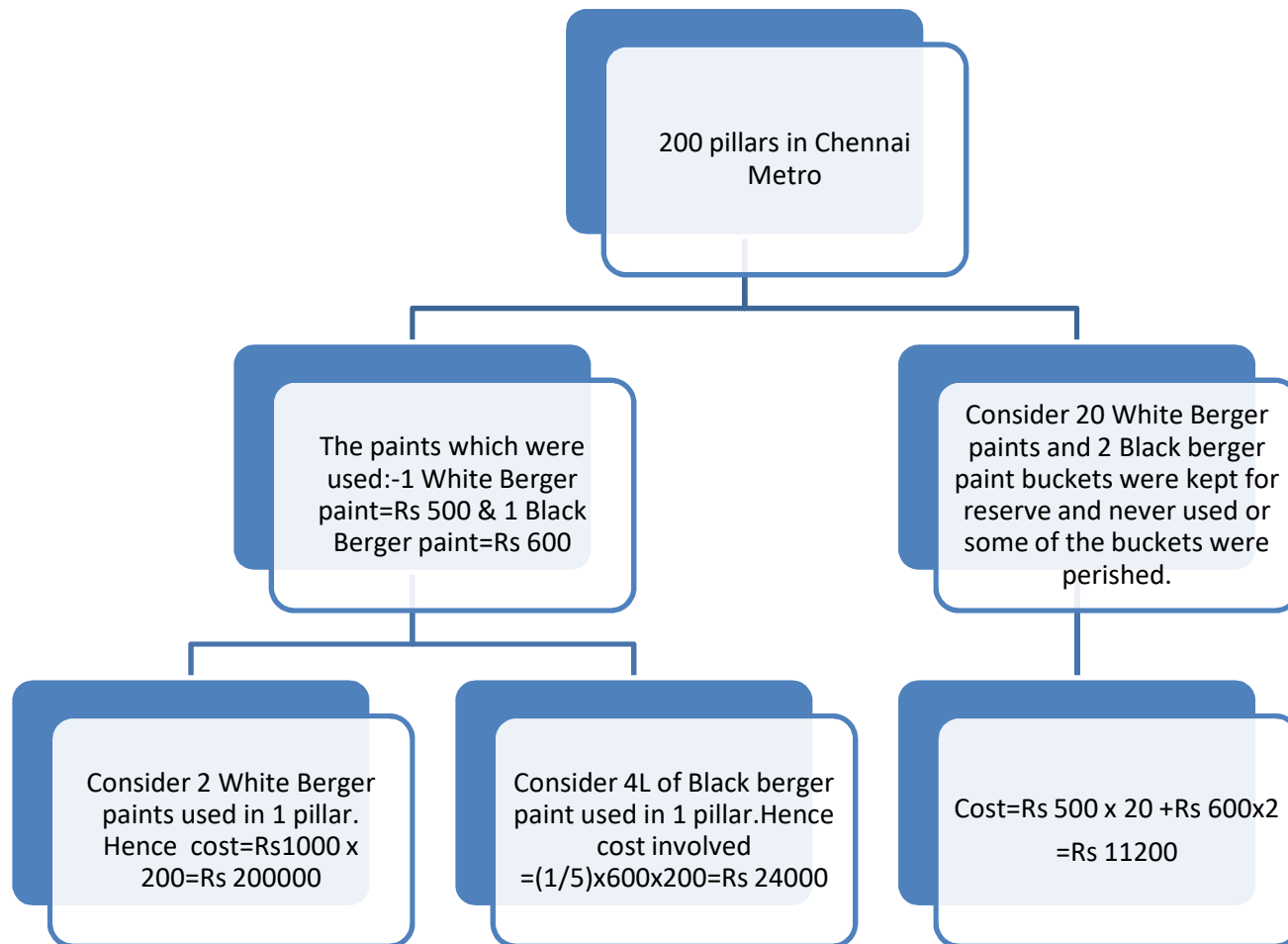
Guesstimate Problem 3: "Estimate the number of burgers sold at a McDonald's Outlet in a day."

Guesstimate Problem 1: "Estimate the total cost involved in painting the metro pillars in Chennai."

- Let us consider the Chennai metro railway corporation has built 200 metro pillars in Chennai.
- The approximate estimate area of only the pillars is considered 100 sq. metres.
- Let us consider that Berger paints is used in the Government purpose of painting the metro pillars in Chennai.
    - Now the average cost of 20L White Berger paint= Rs. 500(Used to paint the whole pillar)
    - The average cost of 20LBlack Berger paint =Rs. 600 (Used for writings such as pillar number, Government names of Agencies involved in building the project etc.)

- Let us estimate that 2 buckets of 20L White Berger paint is used to paint a single pillar. Thus a cost of Rs. 1000 is achieved on painting 1 pillar.
- Let us estimate that 4L of Black Berger paint is used in a single pillar.Thus the cost of black paint used in a single pillar is Rs 120.
- Thus the total cost of painting a single pillar in first phase is Rs(1000+120) x 200=Rs 2,24,000 approx.
- Now we estimate that 20 Buckets of White Berger paint and 2 buckets of black Berger paint is kept extra for use or is unused .Hence, the cost of them is Rs 11200.
- Thus the total approximate cost =Rs 224000+Rs11200=Rs 235200

Flowchart Representation-Question1

Total cost=Rs 235200

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                    ┌─────────────────────────┐
                    │   200 pillars in Chennai │
                    │         Metro           │
                    └─────────────────────────┘
                         │              │
          ┌──────────────┘              └──────────────┐
┌──────────────────────────┐            ┌──────────────────────────┐
│ The paints which were     │            │ Consider 20 White Berger │
│ used:-1 White Berger      │            │ paints and 2 Black berger│
│ paint=Rs 500 & 1 Black    │            │ paint buckets were kept  │
│ Berger paint=Rs 600       │            │ for reserve and never    │
│                           │            │ used or some of the      │
│                           │            │ buckets were perished.   │
└──────────────────────────┘            └──────────────────────────┘
        │            │                              │
   ┌────┘            └────┐                         │
┌──────────────────┐ ┌──────────────────┐  ┌──────────────────────┐
│ Consider 2 White │ │ Consider 4L of   │  │ Cost=Rs 500 x 20     │
│ Berger paints    │ │ Black berger     │  │ +Rs 600x2            │
│ used in 1 pillar.│ │ paint used in 1  │  │                      │
│ Hence cost=Rs1000│ │ pillar.Hence cost│  │ =Rs 11200            │
│ x 200=Rs 200000  │ │ involved         │  │                      │
│                  │ │ =(1/5)x600x200=  │  │                      │
│                  │ │ Rs 24000         │  │                      │
└──────────────────┘ └──────────────────┘  └──────────────────────┘
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Guesstimate Problem 2: "Estimate the number of Uber cars plying on Bangalore roads in a day?"

- Let us consider the population of Bangalore be 10 million.
- Out of these consider 2 million white collar job employees(IT Employees,students,Teachers,Professors etc.),2 million Blue collar job employees and the rest of the population of approx. 6 million to be families of kids,housewives,Old people ,people doing business etc.
- The above 6 million do not travel much and tend to be in their locality .Hence, they are not frequent or regular travellers and they are exceptions.
- The 2 million Blue collar employees are mostly underpaid and cannot afford the luxury of Uber cabs.Hence, they mostly stay near the workplace or travel by Public buses or trains most of the time.
- In the 2 million white collar employees consisting mostly of IT employees, we consider that 1 million population lives near the office.Hence, they tend to walk or take bus to go to office .
- In the remaining 1 million population, we consider that 50% of the employees are localites or reside in the city having vehicles.Hence, 0.5 million population do not take any sort of cabs or transportation.
- Of the remaining 0.5 million population, let us consider that people are equally splitted to travel in Ola & Uber cabs.
- Thus we get that for the above 0.25 million people who travel in Uber, the number of Uber cabs are approximately 1 lakhs.
- Also considering an average of 5000 tourists,non-Bangaloreans travelling on a daily basis etc.,the number of Uber cars would be 1000.
- Hence, a total of 1,01,000 Uber cars are plying in Bangalore roads in a day .

Flowchart Representation-Question2

Total Uber cars=1,01,000

Bangalore population=10M White collar=2M,Blue collar=2M & Rest=6M approx

6M of the rest do not travel as daily commute(Hence not considered as daily uber passengers)

2M blue collar jobs people have less wages.Hence they tend to live near workplace or take bus .

2M White collar employees

1 Million employees stay near workplace.Hence walk

Out of remaining 1 million,50% are localite or have their own vehicle.

Remaining 0.25 M people travel equally in Ola and rest 0.25 M in Uber.

For 2.5 lakh uber passengers,consider that 1 lakh uber care are present.

Consider an approx. 5000 tourists in a city.Hence an estimated 1000 uber cars are prese.nt for them

Guesstimate Problem 3: "Estimate the number of burgers sold at a McDonald's Outlet in a day."

- Considering the McDonalds outlet is in a popular mall in the city.
- Considering a weekend,let us consider that at an average 1 lakh people come to the mall.
- Out of them 80000 avail the food court options.
- Also, in the food court 5 big & popular food chains are present and 15 less popular food chains are present.
- Let us estimate 5000 people eat in the 15 less popular food chains.The remaining 75000 are equally distributed in the 5 popular food chains out of which one is McDonalds.
- Hence McDonalds draws a crowd of 15000 people.
- In these 15000,let us consider that 13000 customers eat a single burger.The remaining customers order 2 burgers from the shop.
- Hence an estimated total of 13000+2x2000=17000 burgers are sold at a McDonalds outlet in a day.

Flowchart Representation-Question3

Total burgers=17000

Consider 1 lakh average crowd in a normal weekend

80000 people use the food court option

20000 approx people do not go to have foodand only visit mall to buy etc.

As 80000 people are splitted to go to 15 small chains (5000 people) and to 4 big food joints(60000 people excluding McDonalds)

Hence for 15 McDonalds crowd,consider 13000 customers eat 1 burger & 2000 customers eat 2 burgers.

Hence these 20000 people never visit the food court and not part of our calculation.