**Question No. 4: Delta Airlines estimates that the fuel efficiency of a Boeing 747 jet is 12 liters per km. If the price of aviation fuel is $1 per liter, how much would it cost the airline to fly to New York and back from Toronto?**

Sample calculation:

Fuel estimate of airplane in liter = 12 l/km

Rate of fuel per liter = $1 /l

Travelling distance of airplane = 1579.2 km

Rate of fuel per km = Rate of fuel per liter \* Fuel estimate of plane in liter = 1\*12 =$12

Price for distance travelled = Distance \* Rate of fuel per km= 1579.2 \* 12 = $18950.4

IPO chart:

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
| Fuel estimate of airplane in liter,  Rate of fuel per liter,  Travelling distance of airplane | Algorithm:   1. Prompt and accept Fuel estimate of airplane in liter 2. Prompt and accept Rate of fuel per liter 3. Prompt and accept Travelling distance of airplane 4. Calculate Rate of fuel per km = Rate of fuel per liter \* Fuel estimate of plane in liter 5. Calculate Price of distance travelled = Distance \* Rate of fuel per km 6. Display Price of distance travelled | Price of distance travelled |

**Question No. 5: Estelle’s Grocery is having a back to school sale of up to 50% off on most food items. The price of potatoes is 11₵ per kg. A plastic bag costs 5₵. What will the total cost (potatoes and bag) if someone buys 25kg of potatoes?**

Sample calculation:

Sale discount = 50%

Price of potatoes = 11₵/kg

Cost of plastic bag = 5₵

Weight of potatoes = 25kg

Total cost of potatoes (25 kg) = Weight of potatoes \* Price of potatoes =25 \* 11 = 275₵

Discount amount on total cost = Sale discount \* Total cost of potatoes = 50% \* 275 = 137.5₵

Total cost of potatoes after discount = Total cost of potatoes – Discount amount on total cost = 275 -137.5 = 137.5₵

Total cost of potatoes after discount with bag = Total cost of potatoes after discount + Cost of plastic bag = 137.5 + 5 = 142.5₵

IPO chart:

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
| Sale discount,  Price of potatoes,  Cost of plastic bag,  Weight of potatoes | Algorithm:   1. Prompt and accept Sale discount 2. Prompt and accept Price of potatoes 3. Prompt and accept Cost of plastic bag 4. Prompt and accept Weight of potatoes 5. Calculate Total cost of potatoes = Weight of potatoes \* Price of potatoes 6. Calculate Discount amount on total cost = Sale discount \* Total cost of potatoes 7. Calculate Total cost of potatoes after discount = Total cost of potatoes – Discount amount on total cost 8. Calculate Total cost of potatoes after discount with bag = Total cost of potatoes after discount + Cost of plastic bag 9. Display Total cost of potatoes after discount with bag | Total cost of potatoes after discount with bag |

**Question No. 6: Fancy Jewelers is located in the Scarborough Town Center on the second floor near to Wal-Mart. In their Boxing week sale earrings were priced at $20 per pair. If Narendra wants to get a pair for as many females in his family as he can. How many pairs can he get if he has $125? [You may assume that there are more females in his family than he can buy earrings.]**

Sample calculation:

Price of earrings per pair = $20

Current fund = $125

Pairs of earrings that can be bought = Current fund / Price of earrings in sale per pair = 125 / 20 = 6.25 = 6 pair (Since, 1 pair of earrings costs $20, the 0.25 will be returned to Narendra)

IPO chart:

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
| Price of earrings per pair,  Current fund | Algorithm:   1. Prompt and accept Price of earrings per pair 2. Prompt and accept Current fund 3. Calculate Pairs of earrings that can be bought = Current fund / Price of earrings in sale per pair 4. Display Pairs of earrings that can be bought | Pairs of earrings that can be bought |