

ShakeShack should create milkshakes of the following types, **Chocolate_Shake**, **Coffee_Shake**, and **Zero_Shake**. As a customer of ShakeShack, you don't need to know any unnecessary details, you just order your preferred shake using the produceShake function at ShakeShack.

All these shakes have milk, and all shakes other than Zero_Shake have sugar. The additional ingredients are chocolate_syrup, chocolate ice cream as base for all of these shakes.

All of the shakes can be made lactose-free by substituting almond milk for the milk. However, making the shake lactose-free adds Tk 60 to the base price. Moreover, all of these shakes can have candy added on top (adding Tk 50 to the base price) or cookies added on top (adding Tk 40 to the base price). Please ensure that your object creation handles these cases.

The base prices of the shakes are:

Chocolate_Shake: Tk 230

Coffee_Shake: Tk 230

Zero_Shake: Tk 240

After the order placement is done, the code should output the names of the shakes ordered, the base and added ingredients, and the individual prices (in case of a price increase, mention why the pricing increased). You have to perform this using a print function. Also, print the order's total price.

Please note that there can be multiple orders during a run. However, the orders are sequential. If "O" is pressed, an order opens; if "E" is pressed, the order closes.

Identify the design pattern that can best capture the scenario above. Only the shakes are to be implemented following a design pattern, not the ordering mechanism.