

Interview with a ticket machine

Interviewer: Hello! Would you please tell me your name and what kind of tickets you sell?

Ticket Machine: Why, most certainly! I am Better-Ticket-Machine and my friend standing over there is Naïve-Ticket-Machine. We both sell tickets to go to Alaska on the subway, but I'm a lot smarter than Mr. Naïve over there.

Interviewer: Is that so? Tell me more about what information you need to get from others, and what you do in return.

Ticket Machine: Well, there are different fields, also known as instance variables, that store data. The price field stores the fixed price of a ticket, which is not entered by the user but by the person who decides how much it costs to go to Alaska on the subway. The balance field stores the amount of money entered by the user, and the total field stores the total amount of money that people have given me to eat. The money is really yummy, but unfortunately, I am emptied periodically and I am forced to barf it all out.

Interviewer: Ahhh...interesting. I see something I don't recognize: `public TicketMachine(int ticketCost)`. What does this do?

Ticket Machine: This is a constructor. It allows me to be set up properly so that I know how much I need to be fed for every ticket I spit out. The balance and the total are set to zero, because when I am first set up, nobody has come to feed me yet.

Interviewer: What is `price=ticketCost`?

Ticket Machine: That's called an assignment statement. It stores the value represented by `ticketCost`, the value on the right, into the variable `price`, which is named on the left. We need the price of a ticket to be stored in a field instead of just a parameter, because the lifetime of a parameter is limited only to one call of a method or constructor. Therefore, we must create a more permanent field named `price` which is equal to the value of the parameter `ticketCost`. We do this by setting the value of the field `price` equal to the value of the parameter `ticketCost`.

Interviewer: What is `getPrice` and `getBalance`?

Ticket Machine: They are accessor methods. That means that they return information about my state. They will show the user the balance and the price. In other words, they will show how much I've been fed and how much I need to be fed.

Interviewer: What parts of the code allow you to receive money and print tickets?

Ticket Machine: We do this by mutator methods, which change my state, or the state of any object. `InsertMoney` adds the amount of money the user is feeding me to the total amount so far. I print tickets by the method `System.out.println` and all the strings I need to print have to be surrounded by quotes.

Interviewer: So, what makes you different from Mr. Naïve-Ticket-Machine over there?

Ticket Machine: Naïve-Ticket-Machine has no clue what he's doing. He will print out tickets to everyone, no matter how much or how little money they put in. So, he will either steal people's money or he will give people free rides. He doesn't know about the conditional statements that allow me to give a ticket only when I've been fed enough, and that also allow me to give change. These conditional statements also allow me to tell

people how much more they need to pay before they can get a ticket, and can prevent me from getting confused if people enter a negative amount of money.

Interviewer: How can people enter a negative amount of money?

Ticket Machine: I don't know, I'm not an idiot who starts spewing out money out of nowhere. Who knows, it's just part of my code to be able to tell users to enter a positive amount of money if the amount they enter is negative. It never is, though, because I'm not stupid enough to start spitting out free money.

Interviewer: Thank you for your time. Now I need a ticket to go to Alaska on the subway. I want to take a vacation.

Ticket Machine: Why of course, that will be \$2,000.

Interviewer: Are you kidding? I don't want to buy it from you; I'm going to go to Mr. Naïve-Ticket-Machine over there! He'll give me a ticket for free! Woo-hoo, I'm going to save myself two thousand bucks!

Ticket Machine: Grrrrrr. I'm hungry.