

Beer Plant

This code represents a beer making process, starting with the user choosing the beer type (Lager or Pilsner) until packing the beer. The program gives the user feedback regarding the stage at which it is now. It also shows the number of six pack packed during the working day.

How to Use

1. At any time, pick up X11-emergency switch- to stop the working day.
2. In the Watch1 window, insert the initial amount of the yeast, hops and malt materials before starting the workday.
3. Pick up X7 to start the workday.
4. If the materials are enough to cook Pilsner, the workday starts and Y7 light turns on.
5. Rotate the analog input to the wanted value:
 - a. 0-5 if you want to cook Lager.
 - b. 6-10 if you want to cook Pilsner.
6. Pick up X1 to sample your input and move the materials to the cooking container, so that the cooking process can begin.
7. If the cooking process began, light Y1 will turn on and stay on for four seconds.
8. To move the beer to the fizzing container and start the fizzing stage, pick up X5.
9. If the fizzing stage began, lights Y3 and Y4 will flicker:
 - a. If you chose Lager, they will flicker for three seconds.
 - b. If you chose Pilsner, they will flicker for four seconds.
10. If you want to start the packing process, pick up X2.
11. Pick up X0 to pack the first bottle in the six pack.
12. If the packing process began, light Y2 will turn on.
13. After the first time you pick up X0, pick up X0 for any additional bottle in the six pack. Light Y2 will turn off after you packed six bottles.

14. After Y2 turns off, the analog output will add 0.1 to the current value (the initial is 0) to represent that one six pack was produced and packed.
15. If you want to make another six pack, go back to stage 5.
16. At the end of the day, the analog output will show you the numbers of six packs you made in the working day, by the formula: $\frac{\text{amount of six packs of the day}}{10}$. In addition, if there are enough materials to produce another beer, you can see the amount of materials remaining in the watch1 window.

Notes

1. Pay attention! If there isn't enough material to produce six pack of Pilsner, the workday won't start or will stop before producing additional six packs.
2. Notice that the lights give you feedback about the process the program is currently in. For example, if Y7 turns off, the workday has ended.

The beer making process

There are two containers for each material: one for the initial value and one we use during the workday. Before starting to produce, the amount of materials you entered to the watch1 window, will be transferred to the containers we use during the day.

After choosing the beer type, the amount of materials needed for making beer six pack is transferred to the cooking container. The amounts vary and it depends on the beer type you chose.

At the start of the fizzing process, the beer is transferred from the cooking container to the fizzing container. After this process, the beer is bottled and packed in six packs, and every six pack is transferred to the storage container.