Sandwich Creation Process

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2/10/16

SE 410

Introduction:

This paper discusses the initial process and the improved process to make a peanut butter sandwich. The Initial outlined process has a list of pre and post conditions as well for each step. This process was then run through and observed to find places where it can be improved. An improved process was then created and run through three separate times with data recorded to test whether it actually improved the process of creating a sandwich or not.

Process Outline:

1. Get Ingredients (bread, peanut butter, knife, plate)
   1. Pre Condition: ingredients are available
   2. Post Condition: Have easy access to all ingredients
2. Spread peanut butter on one slice of bread with the knife
   1. Pre Condition: Have peanut butter, knife, and one slice of bread available
   2. Post Condition: One slice is covered with peanut butter
3. Spread peanut butter on other slice of bread with the knife
   1. Pre Condition: Have peanut butter, knife, and the other slice of bread available
   2. Post Condition: Other slice is covered with peanut butter
4. Put slice of bread with peanut butter against slice of bread with peanut butter where peanut butter and peanut butter are touching so that you maximize the area of contact
   1. Pre Condition: Have prepared slices of bread with peanut butter on them
   2. Post Condition: Have an eatable sandwich
5. Cut sandwich in half diagonally
   1. Pre Condition: Two pieces of bread are put together with peanut butter in between
   2. Post Condition: There are two triangle versions of sandwich
6. Eat sandwich
   1. Pre Condition: There is 2 halves of the sandwich to eat
   2. Post Condition: Sandwich is eaten

Initial Data Set:

|  |  |  |
| --- | --- | --- |
| Step | Time (seconds) | Quality |
| Step 1 | 6.9 | X |
| Step 2 | 26.38 | O |
| Step 3 | 24.6 | X |
| Step 4 | 1.86 | X |
| Step 5 | 9.85 | O |
| Step 6 | 135.45 | X |

Improvement Plan:

After going through the initial process I created, I discovered some flaws in the sandwich making process. The main areas where there were flaws were caused by not enough information being given to the person following the process. Below, I have revised the process in order to improve the creation of sandwiches.

1. Get Ingredients (bread, peanut butter, knife, plate)
   1. Pre Condition: ingredients are available
   2. Post Condition: Have easy access to all ingredients
2. Spread peanut butter on one slice of bread with the knife **so it covers the whole slice of bread and is perfectly level with a height of .5 cm and smooth**
   1. Pre Condition: Have peanut butter, knife, and one slice of bread available
   2. Post Condition: One slice is covered with peanut butter
3. Spread peanut butter on other slice of bread with the knife **so it covers the whole slice of bread and is perfectly level with a height of .5 cm and smooth**
   1. Pre Condition: Have peanut butter, knife, and the other slice of bread available
   2. Post Condition: Other slice is covered with peanut butter that is level throughout the bread
4. Put slice of bread with peanut butter against slice of bread with peanut butter where peanut butter and peanut butter are touching so that you maximize the area of contact
   1. Pre Condition: Have prepared slices of bread with peanut butter on them
   2. Post Condition: Have an eatable sandwich
5. Cut sandwich in half diagonally **by pressing down on top of the sandwich instead of dragging the knife through the sandwich**
   1. Pre Condition: Two pieces of bread are put together with peanut butter in between; **knife is clean**
   2. Post Condition: There are two triangle versions of sandwich
6. Eat sandwich
   1. Pre Condition: There is 2 halves of the sandwich to eat; **a glass of water/milk is available to drink while eating**
   2. Post Condition: Sandwich is eaten; **the drink is gone**

\*\* Bolded is the improved portion

Final Data Set:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Step | Time (seconds) | | | Quality | | |
| Step 1 | 4.5 | 3.9 | 5.1 | X | X | X |
| Step 2 | 19.5 | 17.6 | 17.8 | X | O | X |
| Step 3 | 18.5 | 16.6 | 17.9 | O | X | X |
| Step 4 | 1.97 | 1.2 | 1.76 | X | O | X |
| Step 5 | 7.6 | 8.3 | 7.9 | X | X | X |
| Step 6 | 150.7 | 182.4 | 165.6 | X | X | X |

Conclusions:

* Must see the process be run through is necessary in order for it to be improved
* When trying to reduce the time in step 2 and 3, spreading the peanut butter, quality decreased, but adding extra details to how it should be done helped with consistency even though it only decreased the time by six or so seconds.
* Speed in which things are done does affect the quality of the work so sometimes exchanging speed for quality is worth it