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CS 171

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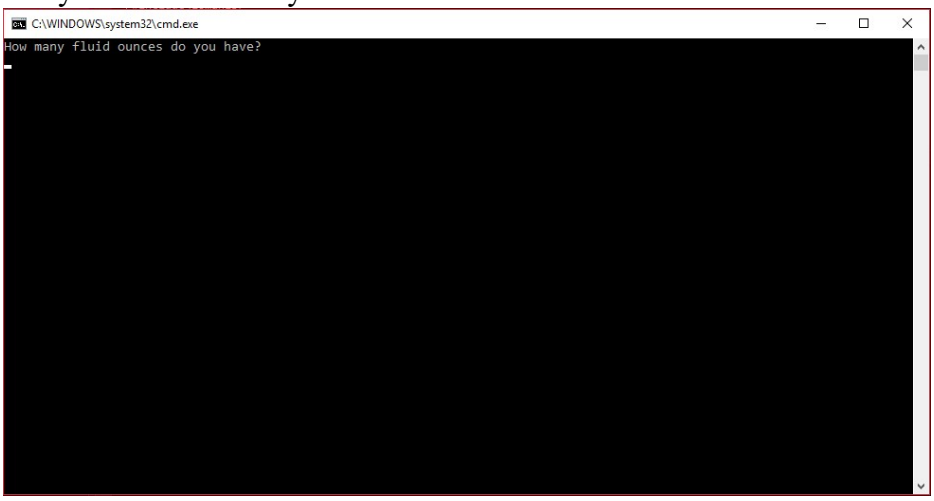
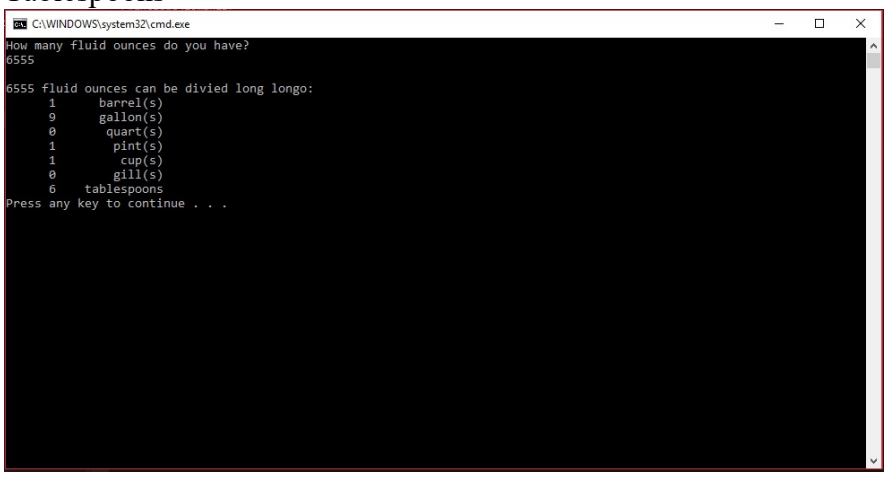
Fluid Converter

- User Manual
  - As soon as one compiles and runs the program, the first line to be seen would be: “How many fluid ounces do you have?”



    - The user is expected to enter the corresponding value
  - The user won’t be required to enter anything in the program.
  - Program would list down and allocate the fluid ounces into various units:
    - Barrel(s)
    - Gallon(s)
    - Quart(s)
    - Pint(s)
    - Cup(s)
    - Gill(s)
    - Tablespoons



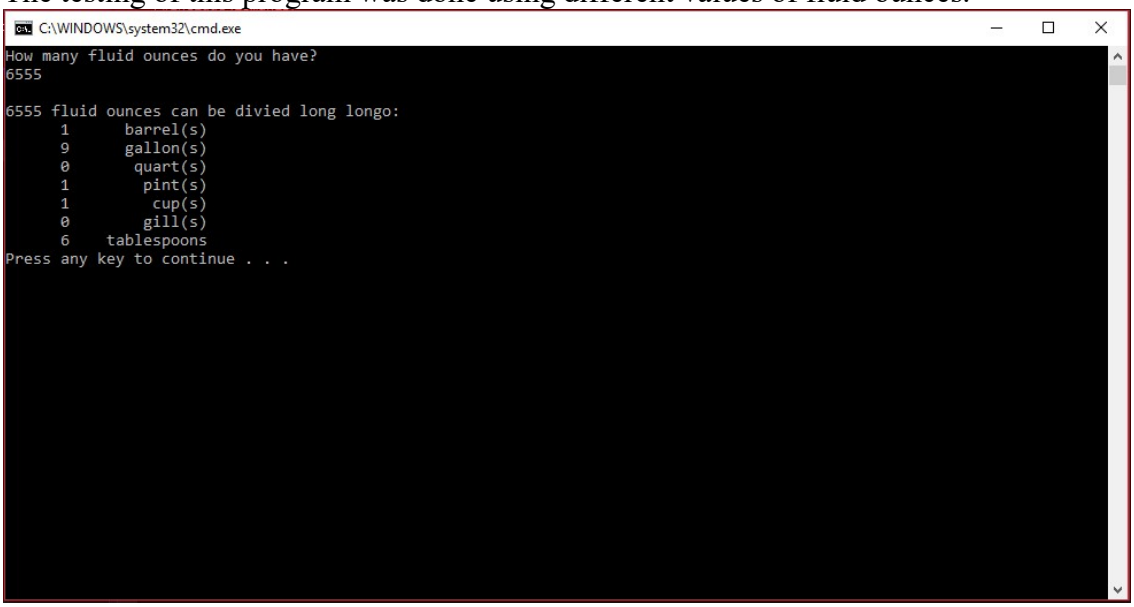
- The conversion into these units is done using the following relationships:
  - 1 fluid ounce = 2 tablespoons
  - 1 gill = 4 fluid ounces (fl oz)
  - 1 cup = 2 gills
  - 1 pint = 2 cups
  - 1 quart = 2 pints
  - 1 gallon = 4 quarts
  - 1 barrel = 42 gallons

❖ System Manual

- There are 8 variables in total; all of them are long datatype type.
  - One for the Fluid ounces to be entered by the user.
  - The other seven variables are for barrel, gallon, quart, pint, cup, gill and tablespoons.
- After collecting the value of Fluid ounces from the user, the program converts it into the other units.
- The conversion code uses extensive use of % (modulo operator), along with / (division operator).
  - For example, for converting the remaining fluid ounces into pints, I used:
    - long long pi = (((fo % 5376) % 128) % 32) / 16; //pint(s)
- In the output setw method from the iomanip library is used to format the spacing between the values of units and texts.

❖ Testing

- The testing of this program was done using different values of fluid ounces.



  - Here I used Fluid ounces as 6555.