Create a project called `lab3` (if using Visual Studio), and a source file called `lab3.cpp`.

Create a `Mass` class that internally stores a mass in drams[1]. Create mutator member functions named `setMassAvoirdupoisPounds`, `setMassTroyPounds`, and `setMassMetricGrams` that take an input mass in the specified mass system, convert the mass to drams, and store that mass in the class member variable. Also, create three accessor functions that return the stored mass in each of the three systems. Write a main function to test your class. Your program should perform error checks on all inputs.

Use the following equations to convert between the three mass systems:

- 1 dram = 1.7718451953125 grams
- 1 dram = 1⁄256 Avoirdupois pound[2]
- 1 dram = 1⁄96 Troy (apothecaries) pound[3]

The output of your program should look something like the following:

```
Please enter 1 to use Avoirdupois pounds, 2 to use Troy pounds, 3 to use grams, or 0
to exit: 1
Please enter a mass in Avoirdupois pounds: 1
Mass in Avoirdupois pounds is 1
Mass in Troy pounds is 2.66667
Mass in grams is 453.592

Please enter 1 to use Avoirdupois pounds, 2 to use Troy pounds, 3 to use grams, or 0
to exit: 2
Please enter a mass in Troy pounds: 1
Mass in Avoirdupois pounds is 0.375
Mass in Troy pounds is 1
Mass in grams is 170.097

Please enter 1 to use Avoirdupois pounds, 2 to use Troy pounds, 3 to use grams, or 0
to exit: 3
Please enter a mass in grams: 1
Mass in Avoirdupois pounds is 0.00220462
```

---

1 https://en.wikipedia.org/wiki/Dram_(unit)

2 https://en.wikipedia.org/wiki/Avoirdupois_system

3 https://en.wikipedia.org/wiki/Troy_weight

```
Mass in Troy pounds is 0.00587899
Mass in grams is 1

Please enter 1 to use Avoirdupois pounds, 2 to use Troy pounds, 3 to use grams, or 0
to exit: 0
Thanks for using the mass conversion program!
```

When finished, one member of your group should turn in your `lab3.cpp` file on Blackboard.