Program Constants: The keyword CONST

1E3
Topic 5a

Numeric Constants
if (temp > 37)
{
    cout << "You have a fever.\n";
    if ((temp - 37) > 10)
        cout << "You should be dead.\n";
}

- 37 is used repeatedly here, but its significance is not clear.
- It would be easy to make a mistake entering it.

Program Style - Constants
- Better to use a constant
  const double NORMAL_TEMP = 37;
  if (temp > NORMAL_TEMP)
  {
      cout << "You have a fever.\n";
      if ((temp - NORMAL_TEMP) > 10)
          cout << "You should be dead.\n";
  }

- Constants can’t be updated by the program.
- To change a constant (e.g. to 98.7) just have to change one place.

Constants
- Another example:
  const double PI = 3.1415
- The name of the constant should be more meaningful than the number.
- It is common practice to name constants with all capitals (NORMAL_TEMP, PI)
- Practical 3 and more realistic variants would be a good place to use lots of constants:
  - double TAXRATE = 0.2; PRSI = 0.25;
  - tax = gross_wage * TAXRATE;