Introduction to Programming Languages CSE130
Final Project

Program Specification (100 pts): Your assignment is to create (in the C++ programming language, using good OOP principles (namespaces, etc.)) an illness symptoms checker.
(Note: Your code should use Inheritance (Base class, and Derived class)

Program Description (Symptoms Checker):
- Print the following table that shows the symptoms for **COVID-19, Cold, and Flu**.
- Ask the user to **enter the number** of patients he/she wants to check.
- Generate Symptoms **Randomly** for each patient.
- **Seven Symptoms**: Each Symptom has value ["present", "absent"].
- After generating Symptoms randomly for all patients please check each patient if he/she has COVID-19, Cold, or Flu.
- If the patient's symptoms **do not** match with symptoms of COVID-19, Cold, or Flu then he/she has other illness.
- **A final report stating:**
  1. How many patients have COVID-19
  2. How many patients have Cold
  3. How many patients have Flu
  4. How many patients have other illness
  5. The percentage of each illness

Guide: * Common   + Sometimes/Rarely   - NO

Symptoms	COVID-19	Cold	Flu
Fever	*	+	*
Cough	*	+	*
Shortness of Breath	*	-	-
Runny Nose	+	*	+
Headaches	+	+	*
Sneezing	-	*	-
Fatigue	+	+	*

```
Sample run:
Welcome to Symptoms Checker


Guide:         * Common        + Sometimes/Rarely      - NO
============================================================
Symptoms          |     COVID-19 |   Cold   |    Flu    |
============================================================

Fever             |        *     |    +     |    *      |
Cough             |        *     |    +     |    *      |
Shortness of Breath |      *     |    -     |    -      |
Runny Nose        |        +     |    *     |    +      |
Headaches         |        +     |    +     |    *      |
Sneezing          |        -     |    *     |    -      |
Fatigue           |        +     |    +     |    *      |

============================================================


Enter the number of patients? 100
Thank you...
=====================================
Symptoms Checker....
2 patients have symptoms of COVID-19
8 patients have symptoms of Cold
8 patients have symptoms of Flu
82 patients may have some other illness
=====================================


Percentage of each illness:
COVID-19:     [2%]++
Cold:         [8%]++++++++
Flu:          [8%]++++++++
Other illness:[82%]+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++
```