Homework 02

ECE 473/573, Fall 2024

Due Date: 09/22 (Sun.) by the end of the day (Chicago time)

- You may use ChatGPT to solve the questions below. Here are a few hints you should follow:
  - Run the original code to understand what the issues look like.
  - Run the corrected code to make sure it actually works.
  - Even if the code works, explanation by ChatGPT is not necessarily true.
  - Ask for an alternative correction so you may have a better choice.

1. *(1 point)* A student implemented the function `appendRand` to append a random number to a slice as follows.

```
package main

import (
    "fmt"
    "math/rand"
)

func appendRand(a []float64) {
    a = append(a, rand.Float64())
}

func main() {
    a := make([]float64, 0)
    for i := 0; i < 10; i++ {
        appendRand(a)
        fmt.Printf("%d: %v\n", i, a)
    }
}
```

   However, the code doesn't work as expected. Correct the code as needed and briefly explain why.

2. *(1 point)* A student implemented a `Vertex` struct similar to what we have done in the lectures as below:

```
package main

import (
    "fmt"
)

type Vertex struct {
    X, Y int
}

func (v *Vertex) Move(dx, dy int) {
    v.X += dx
    v.Y += dy
}

func (v Vertex) String() string {
    return fmt.Sprintf("(%d,%d)", v.X, v.Y)
}

func main() {
    a := make([]Vertex, 0)
    for i := 0; i < 10; i++ {
        a = append(a, Vertex{X: i, Y: i * 2})
    }
    fmt.Printf("before move: %v\n", a)
    for _, v := range a {
        v.Move(1, 2)
    }
    fmt.Printf("after move: %v\n", a)
}
```

However, the `Move` function doesn't seem to work at all. Correct the code as needed and briefly explain why.