```go
package main

import (
  "bufio"
  "fmt"
  "log"
  "os"
  "strconv"
  "strings"
)

var (
  MATRIX_LINE_NUM_SEPARATOR = " "
  CONFIGURATION             configuration
)

func initLoadConfigurations() {
  CONFIGURATION = loadRunConfiguration(CONF_DAT_PATH)
}

type configuration struct {
  systemOrder int
  ICOD        int
  IDET        int
  matrixA     [][]float64
  vectorB     [][]float64
  TOLm        float64
}

func readLineIntoFloat64Array(line string, vec *[]float64) {
  //Split the line we read so we can work on each number.
  stringArray := strings.Split(line, MATRIX_LINE_NUM_SEPARATOR)
  numSlice := []float64{}
  for i := range stringArray {
    num, err := strconv.ParseFloat(stringArray[i], 64)
    if err != nil {
      fmt.Printf("Error parsing line %v\n", line)
```

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38          panic(err.Error())
39        }
40      numSlice = append(numSlice, float64(num))
41    }
42    *vec = numSlice
43  }
44
45  func loadRunConfiguration(configurationFilePath string) (c configuration) {
46    file, err := os.Open(configurationFilePath)
47    if err != nil {
48      log.Fatal(err)
49    }
50    defer file.Close()
51
52    scanner := bufio.NewScanner(file)
53    lineNum := 0
54    matrixLine := 0
55    for scanner.Scan() {
56      //Grab a line
57      line := scanner.Text()
58      //Check for any error during line scan
59      if err := scanner.Err(); err != nil {
60        log.Fatal(err)
61      }
62      if string(line[0]) == "#" {
63        continue
64      }
65      switch lineNum {
66      case 0:
67        c.systemOrder, err = strconv.Atoi(line)
68        if err != nil {
69          panic("conf.dat file probably has a mistake on the systemOrder field")
70        }
71        c.matrixA = InitializeMatrixWithZeros(c.systemOrder, c.systemOrder)
72        c.vectorB = InitializeMatrixWithZeros(c.systemOrder, 1)
73      case 1:
74        c.ICOD, err = strconv.Atoi(line)
```

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 75            if err != nil {
 76                panic("conf.dat file probably has a mistake on the ICOD field")
 77            }
 78        case 2:
 79            c.IDET, err = strconv.Atoi(line)
 80            if err != nil {
 81                fmt.Println("conf.dat file probably has a mistake on the IDET field")
 82                panic(err.Error())
 83            }
 84        case 3:
 85            readLineIntoFloat64Array(line, &c.matrixA[matrixLine])
 86            matrixLine++
 87            if matrixLine < c.systemOrder {
 88                continue
 89            }
 90            matrixLine = 0
 91        case 4:
 92            readLineIntoFloat64Array(line, &c.vectorB[matrixLine])
 93            matrixLine++
 94            if matrixLine < c.systemOrder {
 95                continue
 96            }
 97            matrixLine = 0
 98        case 5:
 99            c.TOLm, err = strconv.ParseFloat(line, 64)
100            if err != nil {
101                fmt.Println("There might be an error on TOLm field.")
102                panic(err.Error())
103            }
104        }
105
106        lineNum++
107    }
108    return c
109 }
110
```