

## **COEN 11 - Practice III**

### **Solutions on Wednesday**

1. Write a function to initialize global 2D array  $x$  (size  $M \times M$ ) with the pattern below. The function is declared as:

```
void init (void);
```

```
0 0 0 0 0 0 0  
0 1 1 1 1 1 0  
0 1 0 0 0 1 0  
0 1 0 0 0 1 0  
0 1 0 0 0 1 0  
0 1 0 0 0 1 0  
0 1 1 1 1 1 0  
0 0 0 0 0 0 0
```

2. Write a void function to traverse an array of structures, in which one member is an integer  $x$  and the other is a union  $u$ . The members in the union are one integer  $y$  and one string  $s$ . When  $x$  is 1,  $y$  is valid, but when  $x$  is 0,  $s$  is valid. Your function should traverse the array counting the number of elements  $y$  between 10 and 100 and the numbers of elements  $y$  that are either less than 10 or more than 100. Use an index to traverse the array. The counters are global variables.
3. Write an int function to traverse the same array of structures above and return the number of strings in the array with a size greater than  $SIZE$ . Use a pointer.
4. Write a void function to output all the elements in the array above. Write one version of the function with an index and one with a pointer.