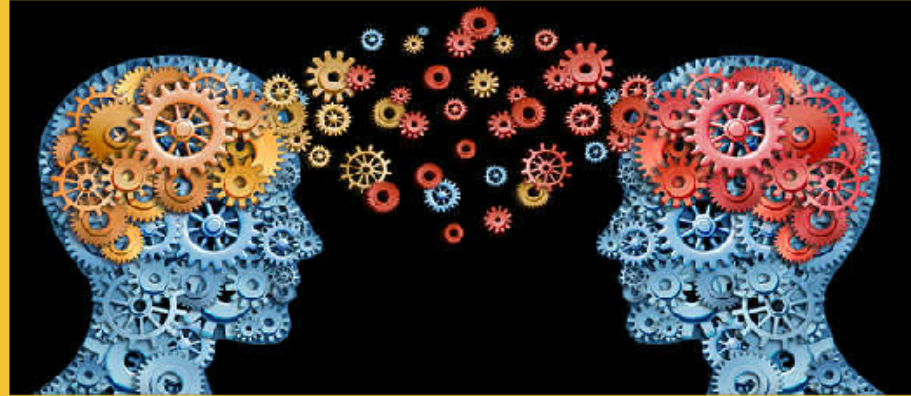# DOKUZ EYLUL UNIVERSITY
DEPARTMENT OF COMPUTER ENGINEERING
Ahmet POLAT - Burak ERDAL - Abdullah ÇELİK

MiniMasterMind Game
Hooman vs CPU
(Eternal Rivalry)

The Master Mind game is a board game, knowns as found by Mordecai Meirowitz, that involves colours and numbers. The players choose colours and a positions that the opponent will try to find depending on other opponents feedback. If guess of how many colour guess is true 'Code' gives white feedback and if colour and position is true the red feedback will be given.

In our project, the players guess numbers in a known range and their position. If number is true but position is false the number of correct guess' will be given negative as feedback. And if number and position is true, number of correct guess' will be given as positive feedback.

If we examine to the history of MasterMind Game, generally some materials use for playing this game. e.g. colorful beads and game table. However, some people play this game on the piece of paper. On the other hand our system is different from the older systems where we use numbers for colours.


```
Press Enter to Start

Round 1
I'm thinking my number...
I got my number.

Enter your first digit: 1
Enter your second digit: 2
Your number is 12
My feedback is +0, -1

Enter your first digit: 2
Enter your second digit: 3

Your number is 23

My feedback is +0 , -1
Enter your first digit: 3
Enter your second digit: 1

Your number is 31

My feedback is +2 , -0
Correct!!!

My time to guess. Choose your numbers.
When you are ready.

My first guess is 21
Enter your feedback: 1
My second guess is 31
Enter your feedback: -1
My last guess is 23
Enter your feedback: 2
Correct!

Pc Score: 3
Human Score: 3
```

Graph 2: A visual presentation of one round of Game.

The program reads numbers which are given from CPU and Human and their positions to compare. Human does NOT enter his number but feedbacks which gives chance CPU to find Human's number.

In our method, CPU gives feedback with a new comparement technique **where not every digits equalities are determined.**
The technique is shown below in **Figure 3.1**

```
//feedback process start
fb = 0;
if (pcfirst == humanfirst)
{
    fb = fb + 1;
    if (pcsecond == humansecond)
    {
        fb = fb + 1;
    }
}
else if (pcsecond == humansecond)
{
    fb = fb + 1;
}

else if (pcsecond == humanfirst)
{
    fb = fb - 1;

    if (pcfirst == humansecond)
    {
        fb = fb - 1;
    }
}
else if (pcfirst == humansecond)
{
    fb = fb - 1;
}

//feedback process end
```

About the process

☑ The equality of digits
☑ The feedback which will be given
⊟ This is the feedback from CPU. The feedback
   of Hooman is not determined here.

Graph 1: The main feedback process for Hooman guess at the round computer is CodeMaker
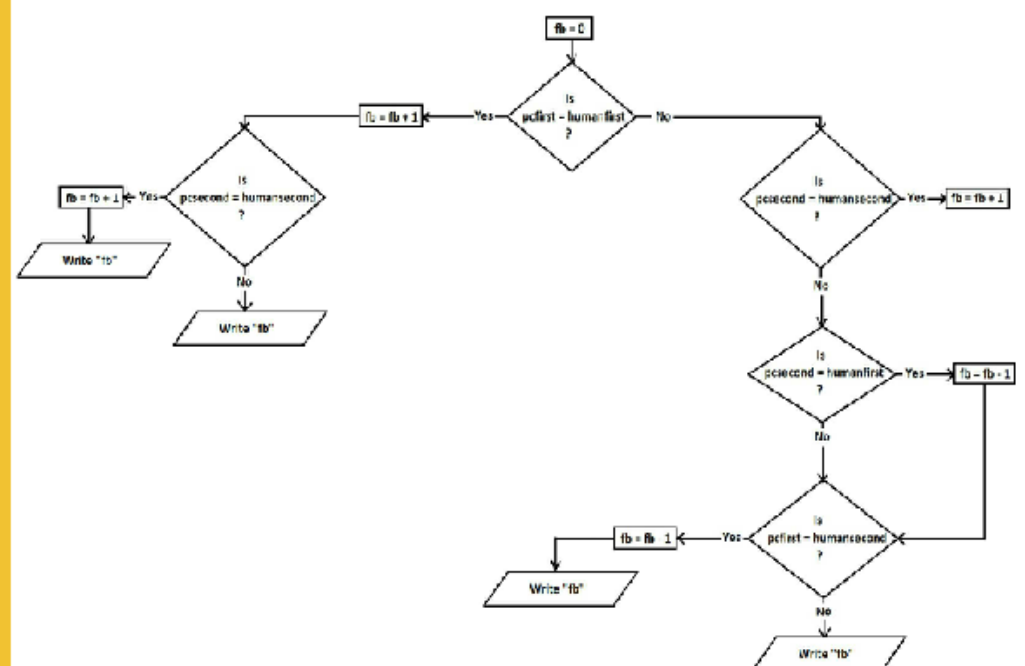
Graph 3: The Flowchart of Feedback Process where CPU is giving feedback