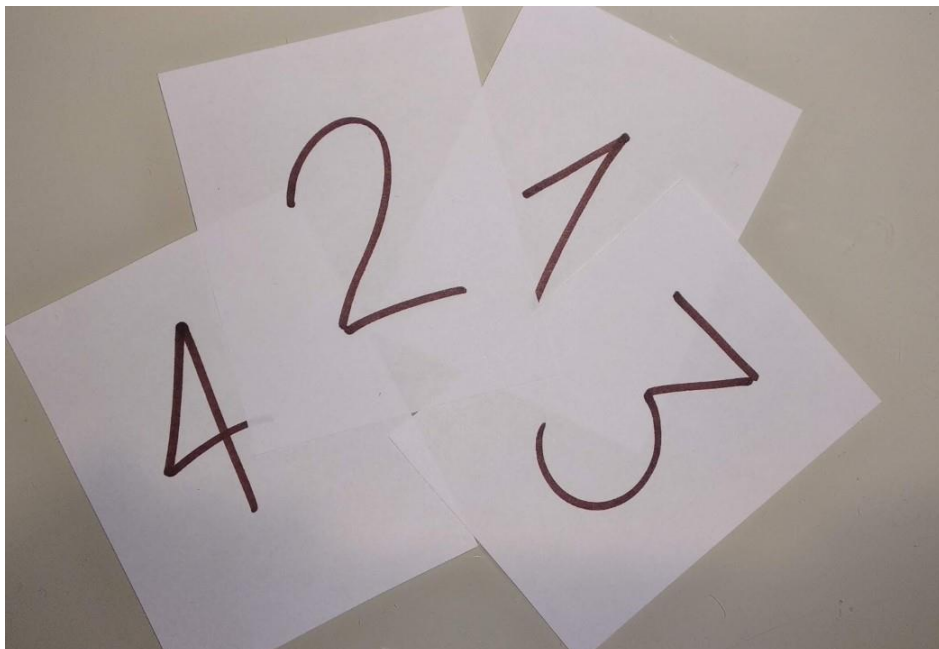# GAME DUTIFULLY REPORT!
MATH GAME

*I dutifully report! Is a math game for 3 players, **requiring 2 micro:bits**.*

Material requirements:

2x BBC micro:bit, 2 x USB cable, 2 x battery for micro:bit, computer with an access to Internet, headband, paper cards with numbers from 1 to 10, adhesive tape

We are going to within an online environment makecod.microbit.org

I dutifully report!

I dutifully report! Is a simple math game that is commonly played with number cards and is designed for two players and one referee. At the direction of the referee, who says *I dutifully report!*, the two players select a number card from the deck (without looking at it) and hold it on their forehead. The referee, who is the only one to see both cards, decides whether to make the sum or product of the two cards and then informs the players of the result (but does not tell them whether he has made a sum or product of the two cards). Players do not see their card, but see the opponent s card, which also holds it in front. Based on the opponent s card and the result of the sum or product of the numbers reported by the referee, the players try to find out which card they are holding. The point is awarded to the player who is the first to guess correctly what number the card he is holding has. After writing the point, the players wait until the referee instructs him to draw another number card. The instruction is *I dutifully report!*

PLAY *I dutifully report!*

Before you continue programming the micro:bit, prepare cards with your teammates and play the game *I dutifully report!*

ELECTRONIC "NUMBER CARDS"

The players first task is to replace the number cards with two micro:bits. These will be programmed with a very simple code. You can choose any command as input – whether pressing a button, shaking, tilting... The remaining rules of the game remain unchanged, it is still true that the player cannot see the number on his micro:bit, but must guess it. Players are always waiting for the referee s command.

```
When button [ A ▾ ] pressed
    Show number ( pick random ( 1 ) to ( 10 ) )
```

Edit and download: http://makecode.microbit.org/_UvdVFhUJmErT

Referee's counter

So that the referee does not have to laboriously write points to the player, who won, we will create a digital counter for him. Each player starts with zero points, if the player number 1 gets point, the referee presses button A and one point is added. If the player number 2 gets the point, the referee presses the B button. How do we list the current score? For example, if we shake the micro:bit, it first lists the number of points of player number 1 and then player number 2.

When the game is over and you want to count the points again, just press the RESET button on the back of the device.

The current state of the micro:bit will be remembered in the variables "player_1" and "player_2".

Edit and download: http://makecode.microbit.org/_8PgLC7dbbd1X
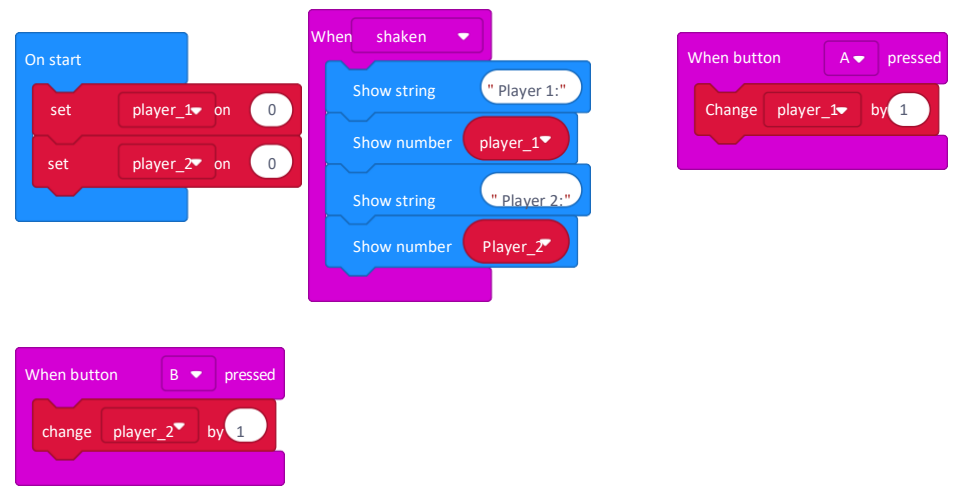
Headband for micro:bit

So that players do not have to hold the micro:bit, we can create a headband from any material that will hold the micro:bit firmly on the head. The new random number is always displayed when the head is tilted (therefore we use the command left when tilted left).

Edit and download: http://makecode.microbit.org/_5VE92gaUUd6q

GAME OPTIONS

You can freely change the game with your teammates:

- Use sum and difference or any other mathematical operations instead of product and sum (if you dare, you can also try powers or squares).
- The game can also be played with 3 players (plus one referee). The procedure is exactly the same as for 2 players, each of the three players has a micro:bit, which generates a random number, the referee makes the product of these three numbers and tells the players. Each player sees the remaining two numbers (except his own). For example players draw the numbers 2, 3 and 5. The referee announces the number 30. Since the player number 1 sees the numbers of his teammates (3 and 5), he answers the number 2 correctly, as 2x3x5 = 30.