Project 129

DP EDUCATION

Coding School

micro:bit

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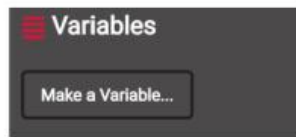
Start Here

❖ Shoot Enemy Game created using Microbit.

❖ First let's create variables.

Variables

Make a Variable...

❖ Create a countdown variable to indicate whether the countdown is true or false.

❖ Create a variable as second to set the required number of seconds.

Your Variables
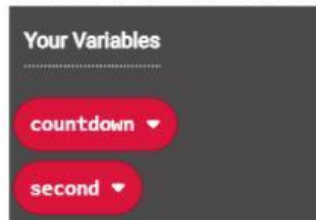
countdown ▾

second ▾

❖ In the on start block of the worksheet, initialize the variables as follows.

❖ Set the value of Countdown variable to false.

❖ Set the value of the variable as Second as 3.

```
on start
set countdown ▾ to false ▾
set second ▾ to 3
```
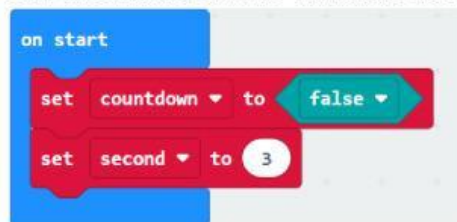
❖ Since the value of the countdown should be shown every time, add the show number block to the forever block in the worksheet and set the second variable to it.

```
forever
show number second ▾
```
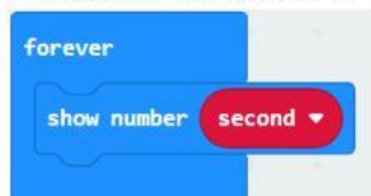
❖ To increase the value of the countdown, use the on button A pressed block as follows and apply the following block to it.

on button A ▼ pressed

change second ▼ by 1
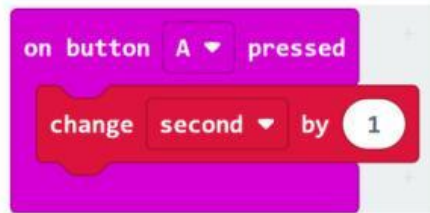
❖ To reduce the value of the countdown, use the on button B pressed block as follows and apply the block as follows.

on button B ▼ pressed

change second ▼ by -1
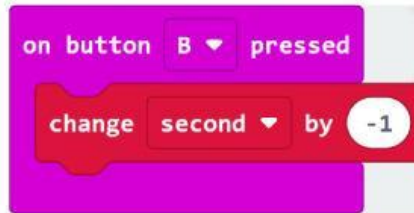
❖ To do the countdown, create a countDown function as follows.

function countDown ⌃

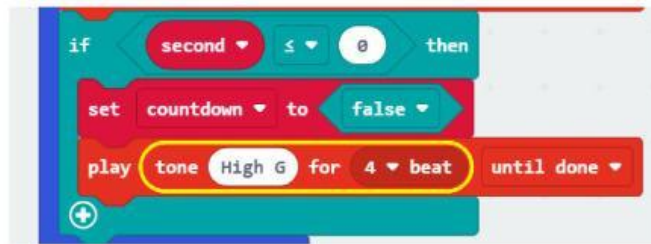❖ Apply block as below to pause for 1 second (1000ms) in that function.

pause (ms) 1000 ▼

❖Then apply the following block to decrease the countdown value by 1.

change second ▼ by -1

❖ Then apply the block as follows to play a music.

play tone Middle C for 1 ▼ beat until done ▼

❖ Also, since the function should stop when the Countdown is 0, add an if block to the countDown function and give second <= 0 as the condition. In the if, the countdown is false and then a tone is played. Give it a beat value of 4.

```
if    second ▼    ≤ ▼    0    then
  set    countdown ▼    to    false ▼
  play    tone  High G  for    4 ▼ beat    until done ▼
  ⊕
```

❖ The complete code of the countDown function is as follows.

```
function  countDown  ⌃
  pause (ms)  1000 ▼
  change  second ▼  by  -1
  play    tone  Middle C  for    1 ▼ beat    until done ▼
  if    second ▼    ≤ ▼    0    then
    set    countdown ▼    to    false ▼
    play    tone  High G  for    4 ▼ beat    until done ▼
  ⊕
```

❖ For the countDown function to work, the countdown variable must be true, and for that, add an if block to the forever block and call the countDown function in it.

```
if    countdown ▼    = ▼    true ▼    then
  call countDown
  ⊕
```
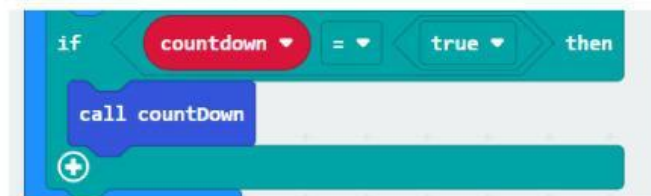
❖ The countdown starts when the logo is pressed and for that, set the countdown to true in an on logo pressed block.

```
on logo  pressed ▼
  set    countdown ▼    to    true ▼
```