



## 2-DAY ROBOTICS PROGRAMME

DEC 9 & 10    or    DEC 28 & 29  
THU-FRI                    TUE-WED

9AM - 12PM

### 6-8 YEAR OLDS

#### DAY 1

##### INTRODUCTION TO MICRO:BIT

- Identify the pins and ports on the micro:bit board
- Identify the other electronic components on the board itself

##### INTRODUCTION TO BLOCK EDITOR

##### INTERESTING LED ARRAY PROJECTS

- Name Tag
- Emotions Badge
- Animated Characters
  - Beating Heart
  - Animated Animals
  - Roll-A-Dice
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##### PROGRAMMING CONCEPTS

- Show LED Block
- Pause Block
- Random Block
- Forever Block
- IF-ELSE Block
- On-board Button

##### INTERESTING LED ARRAY PROJECTS

- Glowing Heart
  - Manual adjustment
  - Automatic adjustment

##### PROGRAMMING CONCEPTS

- Controlling individual LEDs on the LED Array as a form of analog output
- Creation, assignment, and modification of variables
- Use loops to control the brightness of the LEDs
- On-board Buttons for control of brightness

## DAY 2

### CREATE WHACK-A-MOLE GAME

- Light up an LED on the LED array at random.
- Program LED Array to display a correct or wrong every time either button A or B is pressed

### ADD SCORE TRACKING CAPABILITIES

- Light up an LED on the LED array at random.
- Program LED Array to display a correct or wrong every time either button A or B is pressed
- Use a variable to keep track of the score and display it every time a button is pressed.

### INTERESTING LED ARRAY PROJECTS

- Step Tracker
- Micro:Bit tilt game

### PROGRAMMING CONCEPTS

- Individual LED control
- Accelerometer INPUT
- Variable Score Counter/Step Counter

## DETAILS

**DATE: DEC 9 & 10 (THU & FRI) OR  
DEC 27 & 28 (TUE & WED)**

**TIME: 9AM TO 12PM (3HRS)**

**DESIGNED FOR KIDS  
AGES 6-8 YEARS OLD**

## FEES

**SAFRA MEMBERS: \$250  
GUEST: \$270**

**INC. OF GST & MATERIALS  
TERMS AND CONDITIONS APPLY**

**STUDENTS WILL BE REQUIRED TO  
BRING THEIR PERSONAL  
WINDOWS/MAC OS LAPTOP FOR  
THE PROGRAMME.**

## LOCATION

**CANVAS ARK  
SAFRA TOA PAYOH #01-03**

## **TERMS AND CONDITIONS**

- PLEASE NOTE THAT RESERVATION OF SLOTS IS BASED ON A FIRST COME FIRST SERVE BASIS.
- REGISTRATION IS REQUIRED FOR ALL PROGRAMMES.
- THERE WILL BE NO REFUND OF PROGRAMME FEES.
- ALL NON-ATTENDANCE OR NO-SHOW WILL NOT BE REPLACED.
- STARTING FROM THE SEP-OCT 2021 TERM, CANVAS ARK WILL NO LONGER ACCEPT DEFERRAL OF ONLINE CLASS DUE TO COVID-19 HEIGHTENED ALERT.
- IN EVENT OF NEW REGULATIONS BY THE MINISTRY TASK FORCE. PHYSICAL CLASSES WILL BE CONVERTED TO VIRTUAL CLASSES.
- PLEASE SEE BELOW FOR ONLINE PROGRAMME DETAILS WITH AN ADDITIONAL MATERIAL FEE OF \$35.
- COURSE IS CONDUCTED AT CANVAS ARK SAFRA TOA PAYOH #01-03.
- CANVAS ARK @SAFRA RESERVES THE RIGHT TO CANCEL THE FORMATION OF A CLASS IF THE MINIMUM NUMBER OF STUDENTS IS NOT CONFIRMED.
- CANVAS ARK @SAFRA RESERVES THE RIGHT TO AMEND/APPEND/WITHDRAW TERMS AND CONDITIONS WITHOUT PRIOR NOTICE.

## **ONLINE PROGRAMME DETAILS**

Programme outline will be replaced with 2-Day Robotics Programme (Online) should physical classes are unable to proceed.

Online programme will be scheduled on the same day and time of physical programme.

### **Additional Material Fee:**

**COMPULSORY add-on**  
**BBC Micro:Bit Starter Kit - \$35**

**(SELF COLLECTION AT CANVAS ARK)**

**IN PARTNERSHIP WITH**

