

chARM user testing instructions

You'll be asked to follow a set of tasks using the chARM emulator. Once these tasks are complete, you'll be asked a series of questions about your experience using the emulator. You won't be asked to provide any specific results you obtained throughout these tasks, but feel free to note anything you observe about using the emulator.

1. First, please open a web browser and navigate to charm.tomsett.xyz. Does the page load without issue?
2. Take a moment to familiarise yourself with the chARM interface; note the various panels shown, the items in the navigation bar and features available to you.
3. On the next page is a simple ARM assembly program. Please enter this program into the editor by hand (i.e. without copy and paste).
4. Execute the program, and observe the output of the program. To your knowledge, is it correct?
5. Please introduce a syntax error into the program. You could do this by removing a comma from an instruction or adding a letter to an instruction.
6. Now, please execute the program again. You should get an error when doing so. Does the error explain clearly where or what the issue is?
7. Please undo the change you made to introduce a syntax error, and reset the emulator state.
8. Please set the display mode of the emulator to show values in decimal (base 10)
9. Please save your program to a file.
10. Reset the emulator, and clear the code in the editor. Now, please load the 'fibonacci.asm' file provided to you.
11. Please read through the code to get an understanding of what the program does.
12. Execute the program using step-through execution. Observe the changes to the registers/memory as you go.
13. You can now close the chARM application. Thank you for your participation.

Test program for step 3

```
MOV R0, #10  
MOV R1, #5
```

```
ADD R2, R0, R1
```

```
SUB R3, R0, R1
```

```
MUL R4, R0, R1
```