

Lab 3

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Introduction to Python programming on the Raspberry Pi

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1 Activity 1

A picture of the evidence working of the first activity is displayed on figure 1.

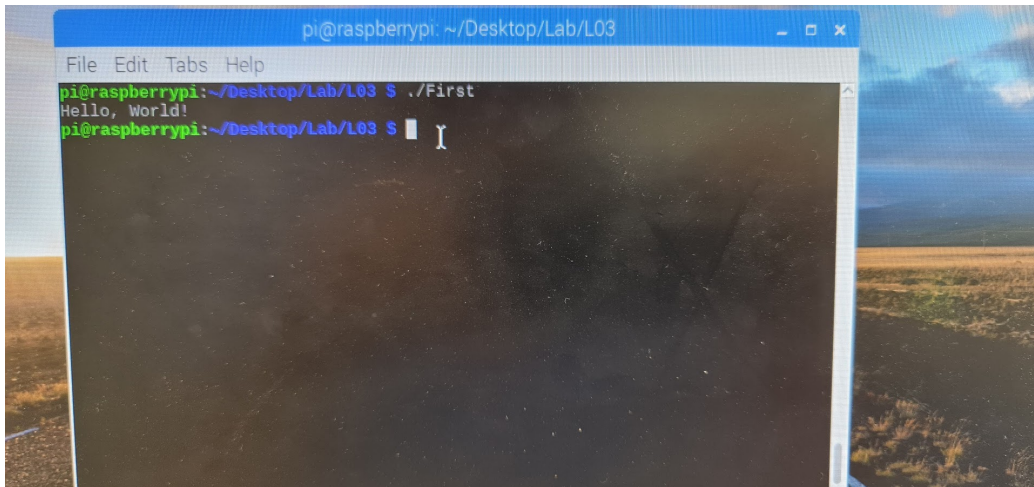
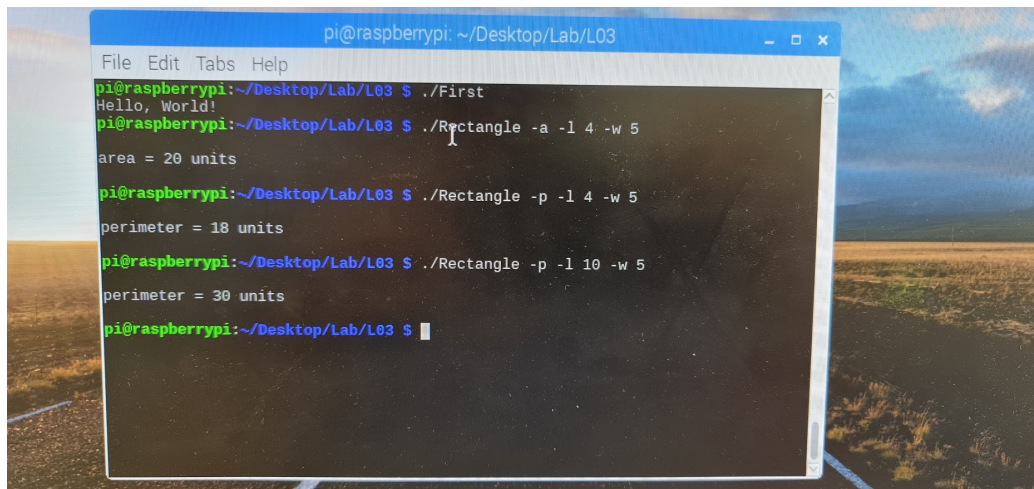


Figure 1: Hello World example working

2 Activity 2

A picture of the evidence working of this activity is displayed on figure 2. Multiple examples are displayed including the example in the instructions.

A terminal window titled 'pi@raspberrypi: ~/Desktop/Lab/L03' with a menu bar (File, Edit, Tabs, Help). The terminal shows the execution of three programs: './First' outputs 'Hello, World!'; './Rectangle -a -l 4 -w 5' outputs 'area = 20 units'; and './Rectangle -p -l 4 -w 5' outputs 'perimeter = 18 units'. The third command is partially visible as './Rectangle -p -l 10 -w 5' with 'perimeter = 30 units' below it. The prompt is 'pi@raspberrypi:~/Desktop/Lab/L03 \$' with a cursor.

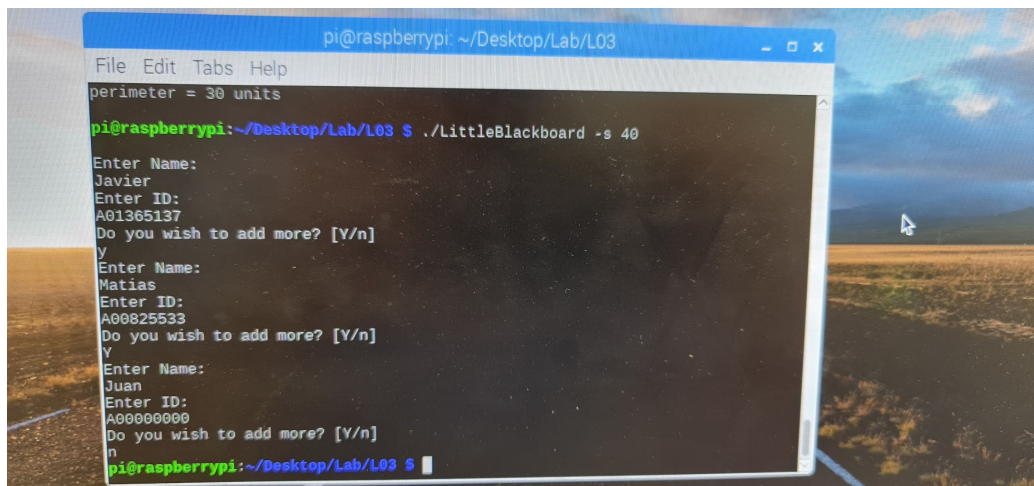
```
pi@raspberrypi: ~/Desktop/Lab/L03
File Edit Tabs Help
pi@raspberrypi:~/Desktop/Lab/L03 $ ./First
Hello, World!
pi@raspberrypi:~/Desktop/Lab/L03 $ ./Rectangle -a -l 4 -w 5
area = 20 units
pi@raspberrypi:~/Desktop/Lab/L03 $ ./Rectangle -p -l 4 -w 5
perimeter = 18 units
pi@raspberrypi:~/Desktop/Lab/L03 $ ./Rectangle -p -l 10 -w 5
perimeter = 30 units
pi@raspberrypi:~/Desktop/Lab/L03 $
```

Figure 2: Rectangle activity working

The code is listed on the following link: https://github.com/javiermomc/Sistemas_Embebidos/blob/main/L03/Rectangle.c

3 Activity 3

A picture of the evidence working of this activity is displayed on figure 3. More than one name is included but the 40 limit is not reached.

A terminal window titled 'pi@raspberrypi: ~/Desktop/Lab/L03' with a menu bar (File, Edit, Tabs, Help). The terminal shows the execution of './LittleBlackboard -s 40'. It prompts for 'Enter Name:' and 'Enter ID:' three times, with inputs 'Javier', 'Matias', and 'Juan'. Each input is followed by a prompt 'Do you wish to add more? [Y/n]' which is answered 'y' for the first two and 'n' for the last. The prompt is 'pi@raspberrypi:~/Desktop/Lab/L03 \$' with a cursor.

```
pi@raspberrypi: ~/Desktop/Lab/L03
File Edit Tabs Help
perimeter = 30 units
pi@raspberrypi:~/Desktop/Lab/L03 $ ./LittleBlackboard -s 40
Enter Name:
Javier
Enter ID:
A01365137
Do you wish to add more? [Y/n]
y
Enter Name:
Matias
Enter ID:
A00825533
Do you wish to add more? [Y/n]
y
Enter Name:
Juan
Enter ID:
A00000000
Do you wish to add more? [Y/n]
n
pi@raspberrypi:~/Desktop/Lab/L03 $
```

Figure 3: Littleblackboard activity working

The code is listed on the following link: https://github.com/javiermomc/Sistemas_Embebidos/blob/main/L03/LittleBlackboard.c

4 Conclusions

Because the Raspberry Pi accepts C as a programming language, the possibilities are limitless to create ideas and solve problems with the ease of a more familiar and general language than assembly. There were not any problem to access the libraries and functions for the development of the previous activities and the programs run correctly.

5 Bibliography

- <https://github.com/matias-vazquez/SistemasEmbebidos>