**Jacobs University Bremen**

Introduction to Robotics and Intelligent Systems Lab (Spring 2020)

CH-220-B\_s2020

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Lab Rotation II B lab 2

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**Introduction:**

**Before this lab report, we have already used several sensors connecting to Arduino and seen their outputs, such as LDR, temperature sensor and distance sensor etc.**

**Now, we are learning about some basic programming in Processing to visualize data given, like draw a basic shape, move it, and interact it with the mouse.**

**Task 2.9**

![手机屏幕截图

描述已自动生成]()

**Task 2.10**

**手机屏幕截图

描述已自动生成**

**Task 2.11**

background() in draw() background() in setup()

手机屏幕的截图

描述已自动生成 手机屏幕的截图

描述已自动生成

background() in draw() is to create multiple backgrounds with a circle in different positions, so that it seems the circle moving in one direction.

On the other hand, background() in setup() means only one fixed background is there for drawing. We are just drawing multiple circles on that background so it has the trace kept.

**Task 2.12**

桌子上放着笔记本电脑

描述已自动生成

桌子上放着笔记本电脑的键盘上

描述已自动生成

桌子上放着笔记本电脑的键盘上

描述已自动生成

Since we are using only the x-coordinate of the mouse, three different position of x is enough to demonstrate the gradual LED brightness change. When the mouse is at the left edge of the small window, the brightness is the lowest, and when right edge, the brightness is the strongest.

**Conclusion:**

By understanding how Processing works with the mouse, we can use the position of the mouse as input to our function. Also, the background function is very important whether it is in draw or setup, they perform different tasks and functions for different requirements.

There is no error occur during the lab session and everything have the expected output.

**Reference:**

Lab manual