Team 17, Section 1

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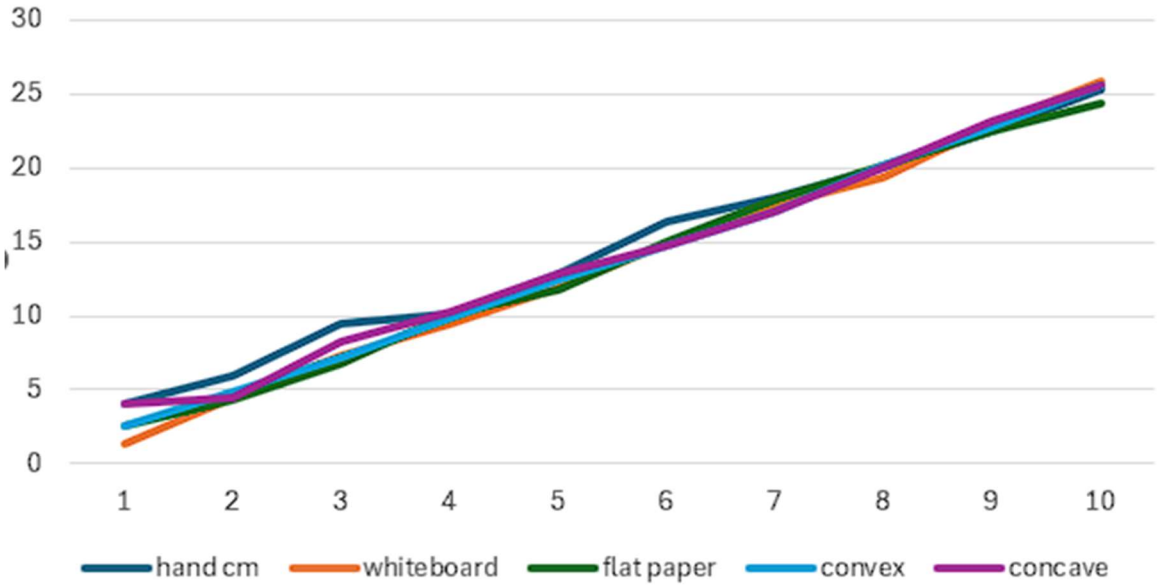
Task 1

1. FTP client is for transferring files, the Remote Desktop gives you a more typical desktop GUI experience.

Task 2

1. You set pin equal to something else, and call UltrasonicSensor(pin)
2. The code doesn't work
3. Forever, yes if you hit stop



Task 3

1. No, there was not a noticeable difference
2. Also no
3. They might be helpful to find any errors or bias of the sensor
4. Background noise level, reflectivity of materials

Task 4

1. RunExamples turns the motor forward one rotation, then back, and then turns on the motor and then stops it, and then provides numerous examples on how to turn the motor based on different values such as degrees, positions, rotations and seconds.
2. Motor.run_for_{*method to turn by here*}({*number here*})
3. Touch_motors increases the speed of the motor at the push of a button until it reaches max speed, and then it reverses and slowly goes to max speed in the opposite direction. This loops.
4. button.value

Robot Desing Lab

Task 1: N/A

Task 2:

1. No, they are not the same. The try/except is used to handle errors that occur during the execution of the program. If/else is used for checking and executing code based on conditions.
2. Motor encoders tell you where the motor is positioned. It is used instead of setting motor power because it is more accurate and can be measured better.

Task 3:

1. Or
2. While

Task 4:

1. Parameter variation
    a. Line finder
        i. Distance – as the distance from an object increased, the sensor would always eventually read only 1.
        ii. Brightness/lighting – The sensor did not give accurate readings in complete darkness. However, even with very low lighting it was still able to differentiate most objects.
    b. Light Sensor
        i. Brightness – We tested the min an maxes of the light sensor, and found that its readings could range from a max of about 615 in full light with flashlights pointed at it to a min of 0 in complete darkness.
        ii. Distance from light source – as the distance from a light source increased, the brightness quickly decreased (due to the inverse-square law)
2. It is useful because you need to know what kind of output your sensors will give you in different scenarios, and how that output can be used in the project. It also helps to give you a sense of the limitations of the sensors, such as when they can and can't be trusted.
3. You can find commands on how to use each sensor in the basehat folder.