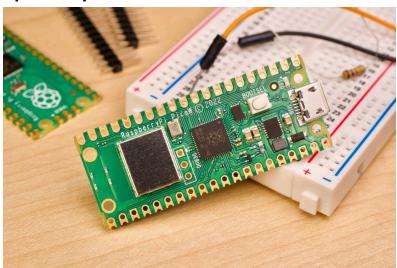


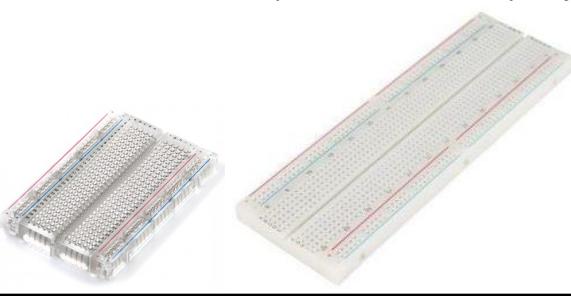
## Shopping List for ME461

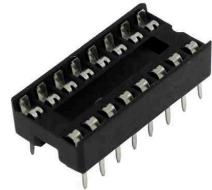
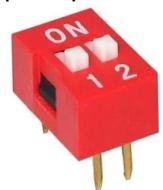
The items in the following list should be purchased by each group, NOT by individuals.

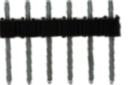
Recommended list of items are given below. For most of these items I do encourage you all to **go to Konya Sokak**, (*that's why the list contains remarks in Turkish*) and go there together not as individual groups to increase your power of bargain. Prior to your visit to Konya Sokak, make sure that you have checked their prices online to see if you are getting the right deal or not.

[Check out the PCB you will be soldering](#) to get an idea of what is coming.

	ITEM	#	Price Est.
1	Raspberry Pi Pico W - W is for wireless 	1	<b>~420</b> Sponsor will provide
2	An economy RC servo motor – any size is OK, but regular size is better for future usability, MG90S is a good alternative as well 	1	<b>70-100+</b> Sponsor will provide
3	 DC motor with gear head and a wheel	2	<b>~80-120</b> Sponsor will provide
4	Mini stepper motor - 28 BYJ 48, just the motor should be enough, you will solder the driver, but buying with the driver does not hurt 	2	<b>~80+</b> Sponsor will provide

	Breadboard: Small Size is acceptable but not always sufficient		
5		1	35-100
6	220, 1K, 2.2K, 10K, 47K 1/4W ohm resistors	min 10 each	5-10
	1, 10, 100 µF capacitor - electrolytic - check out the PCB	min 2	~2
			~50
7	QRD1114 or CNY70	min 2	~50
8	LM2596 step down regulator There are more than 1 footprint of this on the market, 43mm x 21mm is the right one	1	~35
9	 MPU6050 6 Eksen İvme ve Gyroscope Sensörü	1	<b>100</b> <b>Sponsor will provide</b>
10	 Ultrasonic distance measurement sensor (hc sr04)	1	<b>~30</b> <b>Sponsor will provide</b>
11	 8x8 dot matrix led display	Min 2	<b>130</b> <b>Sponsor will provide 2 displays, if you want more plan accordingly</b>

12		1	<b>120</b> Sponsor will provide
13	0.96" OLED display - try to find with the pin sequence as in the image	1	~15
14	Logic level converter 3.3 <-> 5 V	1	~30+
15	Motor driver IC not circuit: L293D	1	~40
16		min 4	~5
17	16 pin dip socket	2	~10
18		3	6-10
19	Microswitch / pushbutton suitable for Breadboard and PCB	10	5
20	LED - better if you have couple of different colors	Min 2 each	~20
	10K Pot for Breadboard—blue rectangular prism package is better for precise adjustment, and metal body is better for quick tests		

			
21	Jumper wires ( <i>jumper kablo</i> ): male-male, male-female, female-female, These are generally sold in bundles of 20 or more. Get 40 each   Or A bundle of Single strand wire ( <i>tek damarlı kablo</i> ) for breadboard prototyping - such wires can also be extracted from network cables <i>get at least 4 different colors</i>	A handful	10-40
22	Croc clips ( <i>Krokodil kablo</i> ) - each at a different color 	3-5	10-20
23	1x40 12 mm Male headers that fits to the breadboards - note that there are colored ones as well, i.e. other than black <i>Breadboard'a uygun 40'li erkek header</i> 	min 4	~10
24	1x20 Female header You can also stack <a href="#">1x10 headers</a> next to each other Note that <a href="#">40pin dip sockets</a> can be modified for the same purpose if you cannot find female headers	min 6	~40
25	Multimeter ( <i>multimetre</i> ) (Current, Resistance and voltage measurement is enough)	1	150-2000+
26	Tweezers ( <i>Cimbiz</i> )	1	15+
27	Wire cutter ( <i>Yan Keski</i> )	1	25+
28	Soldering Iron and solder ( <i>Havya - mümkünse ince uçlu ve lehim teli - pastalı tel tercih edilir, gene de bir kutu pasta alınabilir</i> ) 	1	150+
	Optional		
	7~12 V min 500 mA voltage adaptor to begin with- anything compatible you find at home might work, it is better if you <b>do not buy</b> but make use of an idle adaptor.  Powerbanks might be helpful as well.  Breadboard specific power supplies are also handy such as:	1	-

			
	<p>male female barrel jack connectors</p> 		
	<p>USB Power meter</p> 		
	<p>Toolbox to carry all these and potentially more (<i>Alet çantası</i>) (At least 2x2 coke cans should fit in) Various plastic containers perfectly work as a toolbox such as yogurt plastic containers (the hard ones). You are <b>not to buy anything</b> but find and utilize something that will enable you to securely carry everything you bring to the lab, that's all that matters.</p>	1	-