COMPUTER ENGINEERING TECHNOLOGY DEPARTMENT

Electronic Circuits 1 Laboratory Activity

Name : _____ **Instructor** : _____

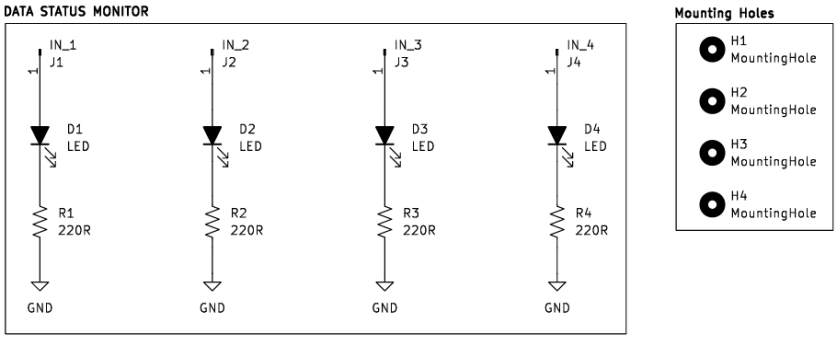
Section : _____ **Date:** _____ **Score** : _____

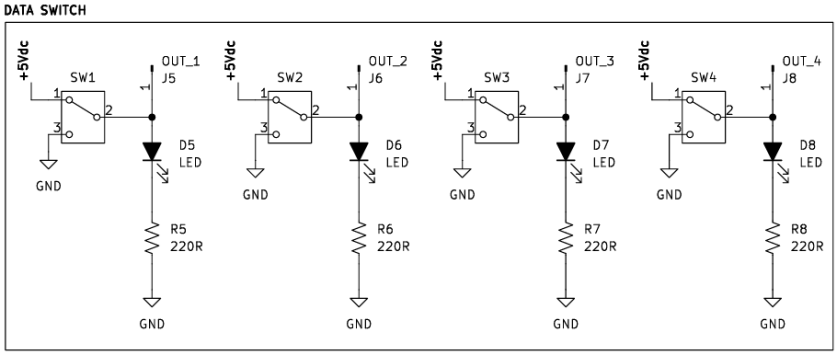
Title : **DTS-4: Digital Trainer System 4-bit** **Lab No.** : **Midterm Project**

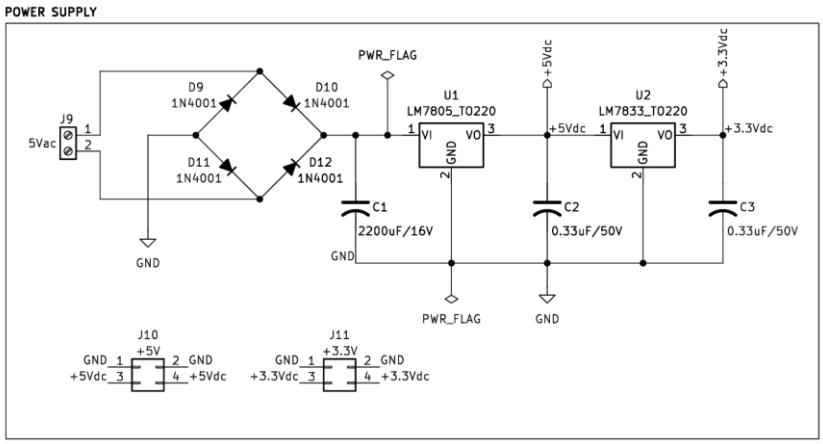
A. Bill of Materials

Reference	Qty	Value	Unit Price	Total Price	Footprint
C1	1	2200uF/16V	75	75	Capacitor_THT:CP_Radial_D16.0mm_P7.50mm
C2,C3	2	0.33uF/50V	3	6	Capacitor_THT:CP_Radial_D10.0mm_P7.50mm
D1,D2,D3,D4,D5,D6,D7,D8	8	LED	14	112	LED_THT:LED_D3.0mm_Clear
D9,D10,D11,D12	4	1N4001	5	20	Diode_THT:D_DO-41_SOD81_P7.62mm_Horizontal
H1,H2,H3,H4	4	MountingHole	0	0	MountingHole:MountingHole_2.2mm_M2
J1	1	IN_1	15	15	Connector_PinHeader_2.54mm:PinHeader_1x01_P2.54mm_Vertical
J2	1	IN_2	0	0	Connector_PinHeader_2.54mm:PinHeader_1x01_P2.54mm_Vertical
J3	1	IN_3	0	0	Connector_PinHeader_2.54mm:PinHeader_1x01_P2.54mm_Vertical
J4	1	IN_4	0	0	Connector_PinHeader_2.54mm:PinHeader_1x01_P2.54mm_Vertical
J5	1	OUT_1	0	0	Connector_PinHeader_2.54mm:PinHeader_1x01_P2.54mm_Vertical
J6	1	OUT_2	0	0	Connector_PinHeader_2.54mm:PinHeader_1x01_P2.54mm_Vertical
J7	1	OUT_3	0	0	Connector_PinHeader_2.54mm:PinHeader_1x01_P2.54mm_Vertical
J8	1	OUT_4	0	0	Connector_PinHeader_2.54mm:PinHeader_1x01_P2.54mm_Vertical
J9	1	5Vac	30	30	TerminalBlock:TerminalBlock_Xinya_XY308-2.54-2P_1x02_P2.54mm_Horizontal
J10	1	5Vdc	0	0	Connector_PinHeader_2.54mm:PinHeader_2x02_P2.54mm_Vertical
J11	1	3.3Vdc	0	0	Connector_PinHeader_2.54mm:PinHeader_2x02_P2.54mm_Vertical
R1,R2,R3,R4,R5,R6,R7,R8	8	220R	1	8	Resistor_THT:R_Axial_DIN0207_L6.3mm_D2.5mm_P7.62mm_Horizontal
SW1,SW2,SW3,SW4	4	SW_SPDT	22	88	Button_Switch_THT:SW_Slide_SPDT_Straight_CK_OS102011MS2Q
U1	1	LM7805_TO220	75	75	Package_TO_SOT_THT:TO-220-3_Vertical
U2	1	LM7833_TO220	75	75	Package_TO_SOT_THT:TO-220-3_Vertical
	2	TO220 Heatsink	56	112	
	1	Soldering Lead (0.8mm)	63	63	
	1	Ferric Chloride (1 bot)	60	60	
	1	Copper Clad Board (10cm x 15cm)	63	63	
			Grand Total	802	

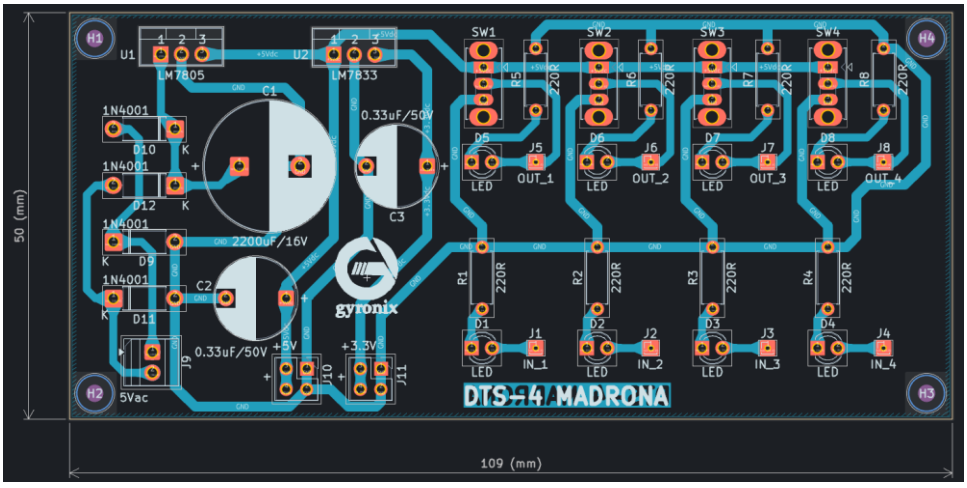
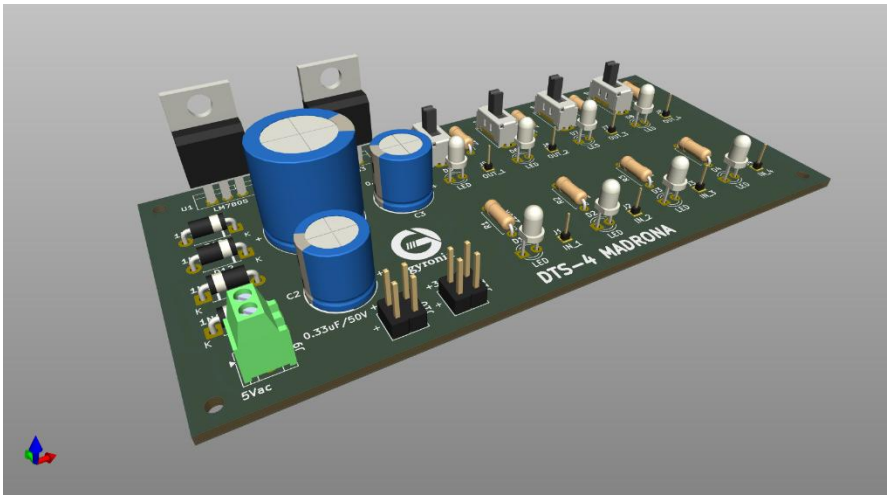
B. Schematic Diagram







C. PCB Layout



D. 3D View