20202021-1 SKEE3223 (11/12) Microprocessor Assignment Task

1. Task:

   Add another one elevator display (multiple elevators on each floor), and add interrupt routine to the elevator display from your assignment 1.

2. Design requirement:

   Add another one elevator display, which means there are two elevators. Now, the input will be 2-tier. The first set of input will be {going up, going down}. For simplicity, let's assume the passenger is only at floor 1 or floor 5. If the passenger pressed "going up", it means the passenger want to go up from floor 1. So, the elevator that is nearest to floor 1 is coming down to pick up the passenger. If the passenger pressed "going down", it means the passenger wants to go down from floor 5. The second set of inputs will be the destination floor {1,2,3,4,5}, and the elevator will go to the chosen floor, as in assignment 1. In addition to that, there is an emergency button designed as external interrupt routine, when pressed at any time, the elevator will stop and the elevator door is open (LED light up outward movement as in the figure if there's no suitable simulator/hardware).

3. Discussion:
   - Suggest an algorithm design to make the elevator available on every floor.
   - Suggest a better interrupt routine for emergency routine and justify your answer.

4. Submission:

   Report your planning on task distribution of group members, design flow chart, the code, the discussion answer, and the snapshot of simulation in a PDF. Record the simulation video attached in the submission via e-learning. If needed, an online session to present your assignment work will be scheduled.

Due Date: 20th January 2021.

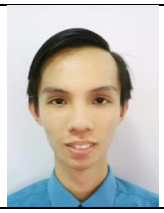
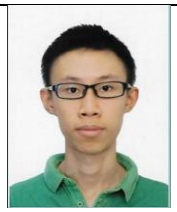
Some advice:

- Do not limit the knowledge to design your project based on what we learned in class. Discussions and sharing ideas between groups are encouraged for the basic design.
- Keep smiling 😉

Link to the AVR simulator:

https://www.oshonsoft.com/avr.html

20202021-1 SKEE3223 (11/12) Microprocessor Assignment Group

Group Name	Members		
G1	Muata	Mahmoud	Zaian
			
G2	Wei Lee	Jia Liang	Oscar
			
G3	Fikri	Hadhari	Rifat
			
G4	Arvindran	Gineshraj	Shivashukkiiran
			
G5	Willy	Quah Chun Meng	Tan Wei Han
			
G6	Nekkesh	Muresh	Parvin
			
G7	Yuvaneish	Tiventhiran	Arafa
			
G8	Ahmed Hany	Eissa	Khaled
			

G9	Joy	Nusrat	Hilmi Hafiz
			
G10	Tan Jun Jie	Wong Khai Chiuan	Wong Yat Weng
			
G11	Pok Wei Han	Lee Leong Chai	Chong Kar Lok
			
G12	Fauzan	Zakaria	Raja
			
G13	Esther	Chen Ching Wei	Ng Jia Sheng
			
G14	Chai Zhen Yu	Cheam Kai Zhi	Oliver Sim Yi Xian
			
G15	Kevin	Soi Kai Jie	Tee Fu Shang
			
G16	Chin Cheng Hui	Peh Yong Sern	Teoh Sun Yi
			
G17	Chobnaa	Ong Wei Han	Ooi Kai Jun
			

G18	Abdelwahab	Nawaf	Faris Hilmi	
				
G19	Faiz Syahmi	Ahlam Forqan	Asyraf	Hafizul Asad