

# Logic Circuits Project

Dr.Kashi

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## TA Information

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Course Name:Logic Circuits

## Notes on Cheating

- 1.This is a reminder that cheating is not tolerated in this course. Any student caught cheating will receive a grade of zero on the assignment and may face further disciplinary action.
- 2.All the output data must be represented with a 7-segment

## 1 Notion

There are 2 separate Projects in this file. you will need to implement both of them for fullmark. note that you would have to write a report for both of the projects.

## 2 encryption-decryption circuit

In this project, we are going to design two circuits, one of which takes a 16-bit number and encrypts it as a 16-bit number. There is also another circuit that decodes the coded number.

**Attention :** This project is more of a research type project and should include a comprehensive report that explains the used algorithm in detail.

## 3 Hotel Management

We plan to design a system for a hotel that has 8 rooms. Each room is either empty or full. If the room is full The corresponding LED lights up. The hotel provides 3 models of services 1-food 2-cleaning 3-dry cleaning Customers can benefit from these services by sending a request to the system. When the customer requests services, the hotel manager notices the customer's request based on the LED of that service. Each of these services come with a special price. This means that each customer will pay 100 dollars for room reservation and 5 dollars for ordering food. Cleaning costs 2 and dry cleaning costs 3. With each request the total cost of each customer to be displayed. Also, each room is reset by a button. Also, the overall income of the hotel is also in one Show a separate section.

Good Luck!