Implementation of Boolean Logic in Arduino using IC 7474

Sai Harshith Kalithkar
harshith.work@gmail.com
FWC22118
IIT Hyderabad-Future Wireless Communication Assignment

February 2023

Contents

1 Problem

(GATE EC-2022)
Q.43. For the circuit shown, the clock frequency is f_0 and the duty cycle is 25%. For the signal at the Q output of the Flip-Flop,
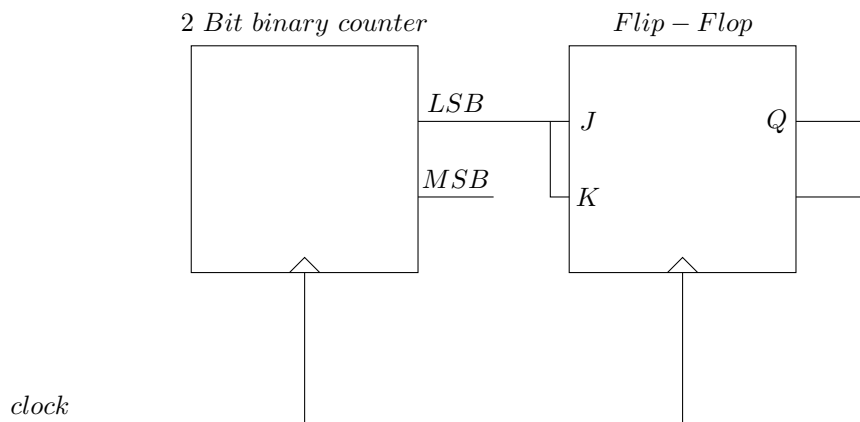

Figure 1: Diagram

1. frequency of $\frac{f_0}{4}$ and duty cycle is 50%

2. frequency of $\frac{f_0}{4}$ and duty cycle is 25%

3. frequency of $\frac{f_0}{2}$ and duty cycle is 50%

4. frequency of f_0 and duty cycle is 25%