NAME :- KRUNAL RANK

ROLL NO :- U18CO081

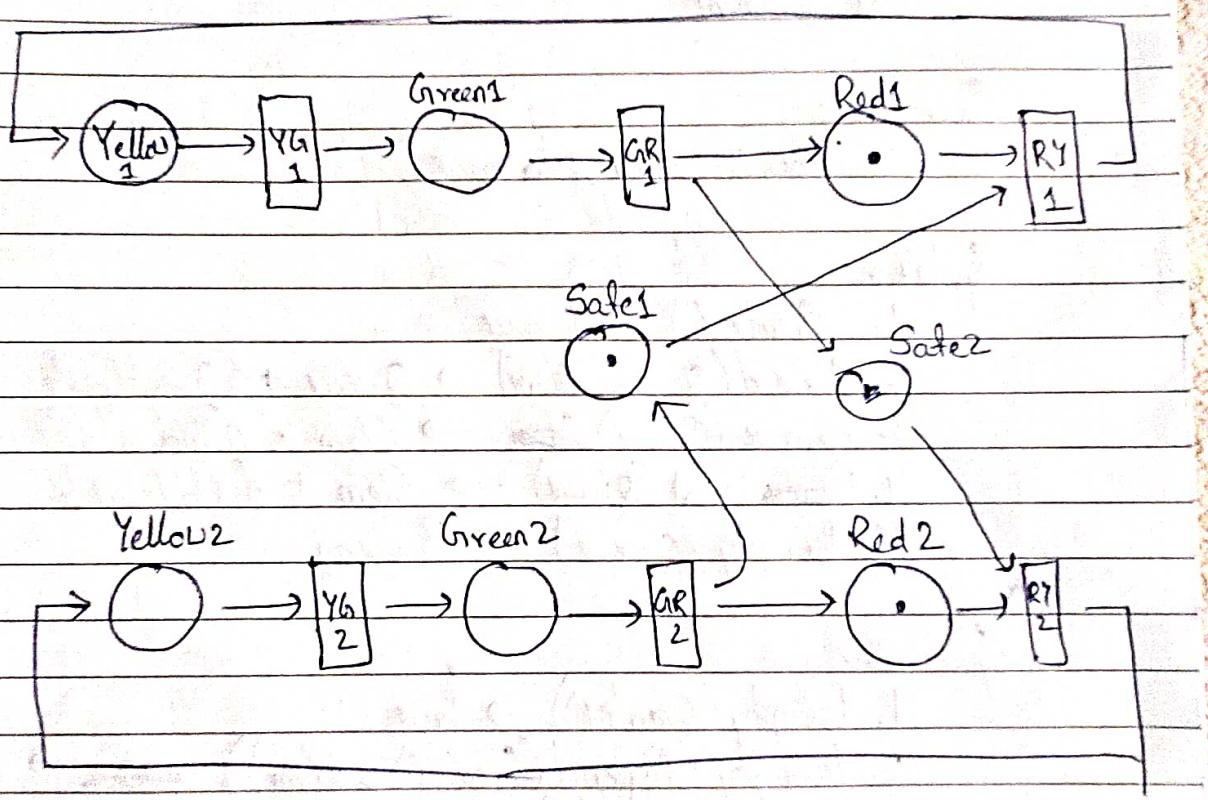
CLASS :- BTECH 4TH YEAR

SEMESTER :- 7

DIVISION :- B

Software Engineering
Tutorial 6

Ans 1. The required Petri Net Diagram is as follows:-



The above diagram dictates the following scenario:

- The state of Safe1 and Red1 start the 1st traffic signal. It alternates into Yellow1 and Green1.
- When 1st traffic signal is green, it sets Safe2 ~~which~~ which starts 2nd traffic signal and that starts from Red to Yellow to Green.
- Then, the process repeats.

Ans 2. algebra Queue:
introduces
Algebraic operations for FIFO queue:-

Types:
defines queue
uses Element

Exceptions:
Underflow, Overflow, No Value

Syntax:
1. Create() → Queue
2. Append(Queue, Elem) → Queue + {Overflow}
3. Remove(Queue) → Elem + {Underflow}
4. First(Queue) → Elem + {No Value}
5. IsEmpty(Queue) → Boolean

Equations:-
1. IsEmpty(Create()) → True
2. IsEmpty(Append(Create(), Elem)) → False
3. IsEmpty(Append(Queue, Elem)) → False
4. First(Create()) → No Value
5. First(Append(Queue, Elem)) → First(Queue)
6. Remove(Create()) → Underflow
7. Remove(Append(Queue, Elem)) → Remove(Queue)