Bus Systems

Exercise 3

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Exercise 3

Scheduling analysis

- Calculate worst case response times using exact scheduling analysis

Message	ID	Period	Deadline	Number of data bytes
A	00000100001	50	5	3
B	00000100000	5	5	2
C	00000100010	10	10	1
D	00000100100	50	20	1
E	00000100011	50	20	5
F	00000100101	100	100	6
G	00000100110	1000	1000	1

- The following is given:
  - All times are given in milliseconds.
  - The dominant bit is 0
  - Standard CAN Version 2A bus with 11 bit identifier and 47 control bits is used
  - The bus speed is 50 Kbits/s.
  - The queuing jitter for all messages is zero.
  - Calculate response times for messages A, B, and G only.

Exercise 3

Scheduling analysis

- What is the critical instantant for a frame type?
- Which effects can delay the transmission of a frame in CAN bus and how are these effects covered by the scheduling analysis