## Solutions to Assignment 7 Questions

1) **Problem P5, Chapter 7**

   a) The delay of packet 2 is 7 slots. The delay of packet 3 is 9 slots. The delay of packet 4 is 8 slots. The delay of packet 5 is 10 slots. The delay of packet 6 is 9 slots. The delay of packet 7 is 8 slots. The delay of packet 8 is 8 slots.

   b) Packets 3, 4, 5, 6, 7, and 8 will not be received in time for their playout if playout begins at t-8

   c) Packets 3, 5 and 6 will not be received in time for their playout if playout begins at t=9

   d) No packets will arrive after their playout time if playout time begins at t=11. This gives the minimum playout delay 3

2) **Problem P6, Chapter 6**

   | Packet number | $r_i - t_i$ | $d_i$ |
   |---|---|---|
   | 2 | 7 | 7 |
   | 3 | 9 | 7.4 |
   | 4 | 8 | 7.52 |
   | 5 | 10 | 8.016 |
   | 6 | 9 | 8.2128 |
   | 7 | 8 | 8.17024 |
   | 8 | 8 | 8.136192 |

3) **Problem P19, Chapter 6**

   a) True

   b) False, she is indicating that she wishes to *receive* GSM audio

   c) False, she is indicating that she wishes to *receive* audio on port 48753

   d) True, 5060 for both source and destination port numbers

   e) True

   f) False, this is a requirement of H.323 and not SIP