Experiment 1:

timer1 publishing at rate 1 (message per second),

timer2 publishing at rate 2,

timer3 publishing at rate 3,

subscriber receiving at rate (instant),

pub queue size 1, sub queue size 1

(6 garbage messages also published into the topic initially)

output:

Text

Description automatically generated

Results: Only the last garbage message is transferred. After that, every message is transferred while spinning.

Experiment 2:

timer1 publishing at rate 1 (message per second),

timer2 publishing at rate 2,

timer3 publishing at rate 3,

subscriber receiving at rate (instant),

**pub queue size 100**, sub queue size 1,

(6 garbage messages also published into the topic initially)

output:

Text, table

Description automatically generated

Results: **Same as previous.** Only the last garbage message is transferred. After that, every message is transferred while spinning. **The behavior remained the same even after increasing publishing queue size** (also checked for queue size 9 and 2).

Experiment 3:

timer1 publishing at rate 1 (message per second),

timer2 publishing at rate 2,

timer3 publishing at rate 3,

subscriber receiving at rate (instant),

pub queue size 1, **sub queue size 100**

(6 garbage messages also published into the topic initially)

output:

Table

Description automatically generated

Results: All the 6 garbage messages are transferred. After that, every message is transferred while spinning. **Subscriber size is important!!! (Same results for subQ size 6, 10)**

Experiment 4:

timer1 publishing at rate 1 (message per second),

timer2 publishing at rate 2,

timer3 publishing at rate 3,

subscriber receiving at rate (instant),

pub queue size 1, **sub queue size 4**

(6 garbage messages also published into the topic initially)

output:

Text

Description automatically generated with medium confidence

Results: Only the last 4 garbage messages are transferred (as expected). After that, every message is transferred while spinning. **This one confirms that subscriber size is more important! Increasing publisher queue size did not make any difference.**

Experiment 5:

timer1 publishing at rate 1 (message per second),

timer2 publishing at rate 2,

timer3 publishing at rate 3,

**subscriber receiving at rate 2,**

pub queue size 1, sub queue size 4

(6 garbage messages also published into the topic initially)

output:

Table

Description automatically generated

Results: The garbage message 3 and 4 is received. After that, every 4th message published to the topic queue is received as expected.

Experiment 6:

timer1 publishing at rate 1 (message per second),

timer2 publishing at rate 2,

timer3 publishing at rate 3,

subscriber receiving at rate 2,

**pub queue size 10**, sub queue size 1

(6 garbage messages also published into the topic initially)

output:

Table

Description automatically generated

Results: The garbage message 3 and 4 is received. After that, every 4th message published to the topic queue is received. **Exactly same result as experiment 5. Increasing the publisher queue does not make any difference.**