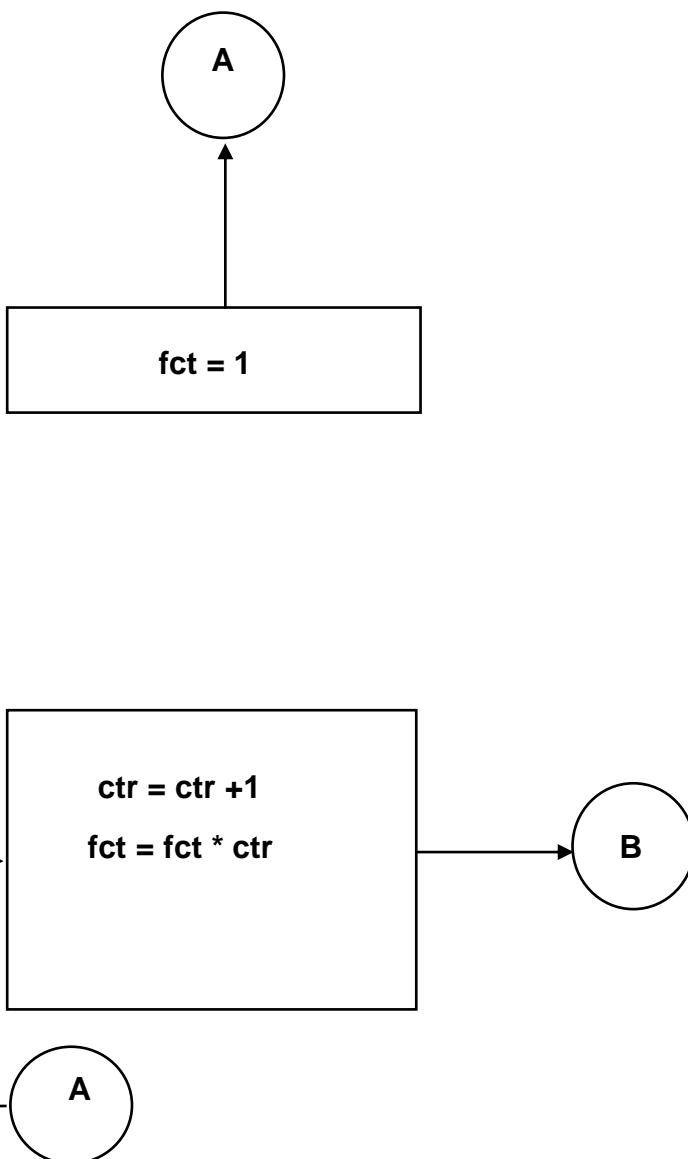


nth loop	num	ctr	fct
	0		1
1 <sup>st</sup>	8	1	1 * 1 = 1
2 <sup>nd</sup>	8	2	1 * 2 = 2
3 <sup>rd</sup>	8	3	2 * 3 = 6
4 <sup>th</sup>	8	4	6 * 4 = 24
5 <sup>th</sup>	8	5	24 * 5 = 120
6 <sup>th</sup>	8	6	120 * 6 = 720
7 <sup>th</sup>	8	7	720 * 7 = 5040
8 <sup>th</sup>	8	8	5040 * 8 = 40320

After the 8<sup>th</sup> loop, ctr is 8. condition ctr <= num is 8 <= 8, which is true, so the loop runs one last time. In this final execution, ctr becomes 9, and the condition 9 <= 8 is false, so the loop terminates.



**1. What is value of fct at the 8<sup>th</sup> loop?**

- The value of fct at the 8<sup>th</sup> loop is 40,320 (which is 8!).

**2. When will the process stop?**

- The process stop when ctr becomes greater than num. The num = 8, the loop terminates when ctr becomes 9.

**3. What is the final value of fct?**

- The final value of fct is the value it holds just before the loops terminates. This is the value of 8!, which is 40,320.

**4. What is the final value of ctr?**

- The final of ctr is the value that makes the loop condition (ctr <= num) false, which is 9.

**5. What is the value of ctr in the 3<sup>rd</sup> loop?**

- The value of ctr in the 3<sup>rd</sup> loop is 3.

**6. What is the value of fct in the 4<sup>th</sup> loop?**

- The value fct in the 4<sup>th</sup> loop is 24 (4!).