

## Race Condition :-

- Definition :- Race condition is a situation where program trying to get same set of resources values and there is no synchronization and results in the incorrect output/result

For e.g.

Routine 1: Increment value to 2 from 1 (variable i)

Routine 2 : Decrements the value but since initial value was 1 and same was picked by this thread it will decrement to zero results in incorrect output

Statement 1:  $i = 1$

Statement 2: routine increment i ( $i = 1$ )

Statement 3: routine decrement i ( $i = 0$ )

And in the above case ,there is no guarantee of sequence of events and we are accessing the same variable ,so this will result in race conditions.

## Program Output :-

Before increment 1

Before increment 1   ←-----Race condition  
After increment 2

Before decrement 2  
After decrement 1

Before decrement 1  
After decrement 0

Before increment 0  
After increment 1

Before decrement 1  
After decrement 0