Three processes are running in parallel sharing variables i and j, which are initialized as i = 0 and j = 0. You have to synchronize the following processes such that the output on the console is a continuous string of integers as 3,6,9,12,… The code should be maximally parallel and efficient. Note: You can do anything you like for the solution, except writing a new statement which uses variables i or j on left hand side. You can however, introduce a new variable e.g., k

sem_1=1,sem_2=1,sem_3=0,sem_4=0, count = 1 // among shared variables count is an integer, rest are semaphores

Process 1	Process 2	Process 3

while(true)
{
j++;
}
	while(true)
	{
	i++;
	}
		while(true)
		{
		cout << i+j<<",";
		i = 0;
		j = 0;
		}

Solution:

Process 1	Process 2	Process 3
sem_1=1,sem_2=1,sem_3=0,sem_4=0, count = 1 // among shared variables count is an integer, rest are semaphores		

while(true)
{
sem_1.wait();
for (int k = 0 ; k
< count ; ++k
)
j++;
sem_3.post();
}
	while(true)
	{
	sem_2.wait();
	for (int k = 0 ; k
	< count*2 ;
	++k)
	i++;
	sem_4.post();
	}
		while(true)
		{
		sem_3.wait();
		sem_4.wait();
		cout << i+j<<",";
		i = 0;
		j = 0;
		++count;
		sem_1.post();
		sem_2.post();
		}