**EXPERIMENT: 20** To Construct a C program to simulate Reader-Writer problem using Semaphores.

**PROGRAM:**

#include <stdio.h>

#include <semaphore.h>

sem\_t wrt, mutex;

int data=0, rc=0;

void reader(int id){

sem\_wait(&mutex); rc++;

if(rc==1) sem\_wait(&wrt); sem\_post(&mutex);

printf("Reader %d reads %d\n",id,data);

sem\_wait(&mutex); rc--;

if(rc==0) sem\_post(&wrt); sem\_post(&mutex);

}

void writer(int id){

sem\_wait(&wrt); data++;

printf("Writer %d writes %d\n",id,data);

sem\_post(&wrt);

}

int main(){

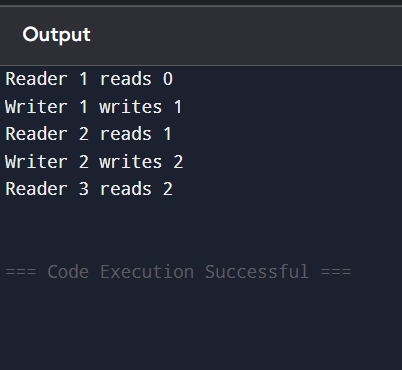
sem\_init(&wrt,0,1); sem\_init(&mutex,0,1);

reader(1); writer(1); reader(2); writer(2); reader(3);

return 0;

}

**OUTPUT:**

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