

Task1

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(hypnosphynx@ hypnosphynx) ~/Desktop/lab4
$ gcc -o task task1.c -lpthread
task1.c: In function 'main':
task1.c:29:5: warning: '_builtin_memcpy' writing 7 bytes into a region of size 6 overflows the destination [-Wstringop-overflow=]
 29 |     strcpy(source, "abcdef");
    |     ^
task1.c:12:6: note: destination object 'source' of size 6
 12 | char source[BUFLen];
    |
(hypnosphynx@ hypnosphynx) ~/Desktop/lab4
$ ./task
0 produced a by Thread 0
1 produced b by Thread 0
2 produced c by Thread 0
3 produced d by Thread 0
4 produced e by Thread 0
0 consumed a by Thread 0
1 consumed b by Thread 0
2 consumed c by Thread 0
3 consumed d by Thread 0
4 consumed e by Thread 0
5 produced f by Thread 0
6 produced a by Thread 0
7 produced b by Thread 0
8 produced c by Thread 0
9 produced d by Thread 0
5 consumed f by Thread 0
6 consumed a by Thread 0
7 consumed b by Thread 0
8 consumed c by Thread 0
9 consumed d by Thread 0
```

Task2

```
(hypnosphynx@hypnosphynx)-[~/Desktop/Lab4]
$ ./task
Farmer 1: Inserts crop R at 0
Farmer 2: Inserts crop W at 1
Farmer 3: Inserts crop P at 2
Farmer 4: Inserts crop S at 3
Farmer 5: Inserts crop M at 4
Shop owner 1: Removes crop R from 0
Shop owner 5: Removes crop W from 1
Farmer 1: Inserts crop R at 0
Shop owner 5: Removes crop P from 2
Shop owner 4: Removes crop S from 3
Farmer 3: Inserts crop W at 1
Shop owner 1: Removes crop M from 4
Shop owner 3: Removes crop R from 0
Farmer 5: Inserts crop P at 2
Shop owner 2: Removes crop W from 1
Shop owner 5: Removes crop P from 2
Farmer 2: Inserts crop S at 3
Farmer 4: Inserts crop M at 4
Farmer 1: Inserts crop R at 0
Farmer 3: Inserts crop W at 1
Farmer 5: Inserts crop P at 2
Shop owner 4: Removes crop S from 3
Farmer 2: Inserts crop S at 3
Shop owner 3: Removes crop M from 4
Shop owner 3: Removes crop R from 0
Farmer 4: Inserts crop M at 4
Shop owner 4: Removes crop W from 1
Shop owner 2: Removes crop P from 2
Farmer 3: Inserts crop R at 0
Shop owner 5: Removes crop S from 3
Shop owner 3: Removes crop M from 4
Farmer 2: Inserts crop W at 1
Shop owner 1: Removes crop R from 0

int count = 0;
int buflen;

pthread_mutex_t count_mutex = PTHREAD_MUTEX_INITIALIZER;
pthread_cond_t nonEmpty = PTHREAD_COND_INITIALIZER;
pthread_cond_t full = PTHREAD_COND_INITIALIZER;
int thread_id[NUMTHREAD] = {0,1};
int i = 0;
int j = 0;

int main()
{
    int i;
    pthread_t thread[NUMTHREAD];
    strcpy(source, "abdef");
    buflen = strlen(source);

    pthread_create(&thread[0], NULL, producer, 0);
    pthread_create(&thread[1], NULL, consumer, 0);

    for (i = 0; i < NUMTHREAD; i++) {
        pthread_join(thread[i], NULL);
    }

    return 0;
}
```

```
Shop owner 1: Removes crop W from 1
Farmer 5: Inserts crop P at 2
Farmer 1: Inserts crop S at 3
Farmer 4: Inserts crop M at 4
Shop owner 3: Removes crop P from 2
Farmer 2: Inserts crop R at 0
Shop owner 3: RNNSM
Farmer 2: RNNSM
Shop owner 1: Removes crop S from 3
Shop owner 2: Removes crop M from 4
Shop owner 1: RNNNN
Farmer 1: Inserts crop W at 1
Farmer 1: RWNNN
Farmer 3: Inserts crop P at 2
Shop owner 2: Removes crop R from 0
Shop owner 5: Removes crop W from 1
Shop owner 5: NNPNN
Farmer 4: Inserts crop S at 3
Farmer 3: NNPSN
Farmer 4: NNPSN
Shop owner 4: Removes crop P from 2
Shop owner 2: Removes crop S from 3
Shop owner 2: NNNNN
Farmer 5: Inserts crop M at 4
Farmer 5: NNNNM
Shop owner 4: Removes crop M from 4
Shop owner 4: NNNNN

pthread_mutex_t count_mutex;
pthread_cond_t nonEmpty = P
pthread_cond_t full = PTHR
int thread_id[NUMTHRE
int i = 0;
int j = 0;

int main()
{
    int i;
    pthread_t thread[NUMTHRE
    strcpy(source, "abdef");
    buflen = strlen(source);

    pthread_create(&thread[0]
    pthread_create(&thread[1]

    for (i = 0; i < NUMTHRE
        pthread_join(thread[
    }

    return 0;
}
```