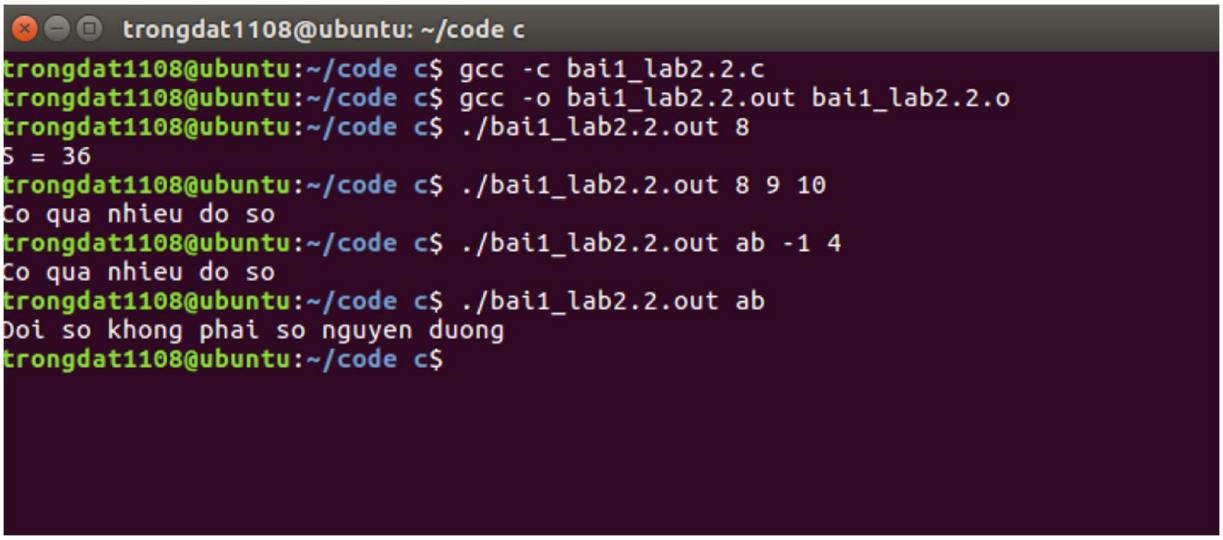
Lab 2.2

Câu 1:

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
int main(int argc, char ** argv)
{
        int i = 0, S = 0, n;
        n = atoi(argv[1]);
        if(argc > 2)
        {
                printf("Co qua nhieu do so/n\n");
                return 0;
        }
        if(n <= 0)
        {
                printf("Doi so khong phai so nguyen duong\n");
                return 0;
        }
        for(i = 1; i <= n; i++)
        {
                S += i;
        }
        printf("S = %d\n", S);
        return 0;
}
```



Câu 2:

bai1_lab2.2.c × bai2_lab2.2.c ×

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
int main(int argc, char ** argv)
{
        int i = 0, u, n;
        n = atoi(argv[1]);
        if(argc > 2)
        {
                printf("Co qua nhieu do so\n");
                return 0;
        }
        if(n <= 0)
        {
                printf("Doi so khong phai so nguyen duong\n");
                return 0;
        }
        printf("Cac uoc so cua %d ", n);
        for(i = 1; i <= n; i++)
        {
                if(n % i == 0)
                {
                        printf("%d ", i);
                }
        }
        printf("\n");
        return 0;
}
```

```
trongdat1108@ubuntu: ~/code c
trongdat1108@ubuntu:~/code c$ gcc -c bai2_lab2.2.c
trongdat1108@ubuntu:~/code c$ gcc -o bai2_lab2.2.out bai2_lab2.2.o
trongdat1108@ubuntu:~/code c$ ./bai2_lab2.2.out 12
Cac uoc so cua 12 1 2 3 4 6 12
trongdat1108@ubuntu:~/code c$ ./bai2_lab2.2.out 12 4 5
Co qua nhieu do so
trongdat1108@ubuntu:~/code c$ ./bai2_lab2.2.out abc
Doi so khong phai so nguyen duong
trongdat1108@ubuntu:~/code c$
```

Câu 3:

```c
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <ctype.h>

int checkNumber(char str[]);
int selectionSort(int a[], int n);
void outputArray(int a[], int n);

int main(int argc, char **argv)
{
		int i, n = 0;
		int a[argc];

		for(i = 1; i < argc; i++)
		{
			if(checkNumber(argv[i]) == 1)
			{
				a[n] = atoi(argv[i]);
				n++;
			}
		}
		if(n == 0)
		{
			printf("Khong co doi so de sap xep");
			return 0;
		}
```

```c
		selectionSort(a, n);
		printf("Day doi so tang dan la: ");
		outputArray(a, n);
		return 0;
}

int checkNumber(char str[])
{
	int i, n = strlen(str);

	for(i = 0; i < n; i++)
	{
		if(!isdigit(str[i]) && str[i] != '-')
		{
			return 0;
		}
	}
	return 1;
}

int selectionSort(int a[], int n)
{
	int index = 0;
	int i, j ,temp;
	for (i = 0; i < n - 1; i++)
	{
		index = i;
```

```
        {
                index = i;
                for(j = i + 1; j < n; j++)
                {
                        if(a[j] < a[index])
                        {
                                index = j;
                        }
                }
                if(index != i)
                {
                        temp = a[index];
                        a[index] = a[i];
                        a[i] = temp;
                }
        }
        return 0;
}

void outputArray(int a[], int n)
{
        int i;
        for(i = 0; i < n - 1; i++)
        {
                printf("%d ", a[i]);
        }
        printf("%d Z\n", a[n - 1]);
}
```

```
trongdat1108@ubuntu: ~/code c
trongdat1108@ubuntu:~/code c$ gcc -c bai3_lab2.2.c
trongdat1108@ubuntu:~/code c$ gcc -o bai3_lab2.2.out bai3_lab2.2.o
trongdat1108@ubuntu:~/code c$ ./bai3_lab2.2.out 8 3 1 ab -12
Day doi so tang dan la: -12 1 3 8
trongdat1108@ubuntu:~/code c$
```

Lab 2.3

Câu 1:

```c
#include <stdio.h>
#include <stdlib.h>

int main(int argc, char ** argv)
{
        int i = atoi(argv[1]);
        int j = atoi(argv[2]);
        int k = atoi(argv[3]);
        sum_n(i);
        fact_n(j);
        div_n(k);
        return 0;
}
```

main.c × task3_1div.c × task3_1fac.c × task3_1sum.c × main2.c ×

```c
#include <stdio.h>
#include <stdlib.h>

void sum_n(int n)
{
        int i, s = 0;
        for(i = 0; i <= n; i++)
        {
                s = s + i;
        }
        printf("Sum %d = %d\n", n, s);
}
```

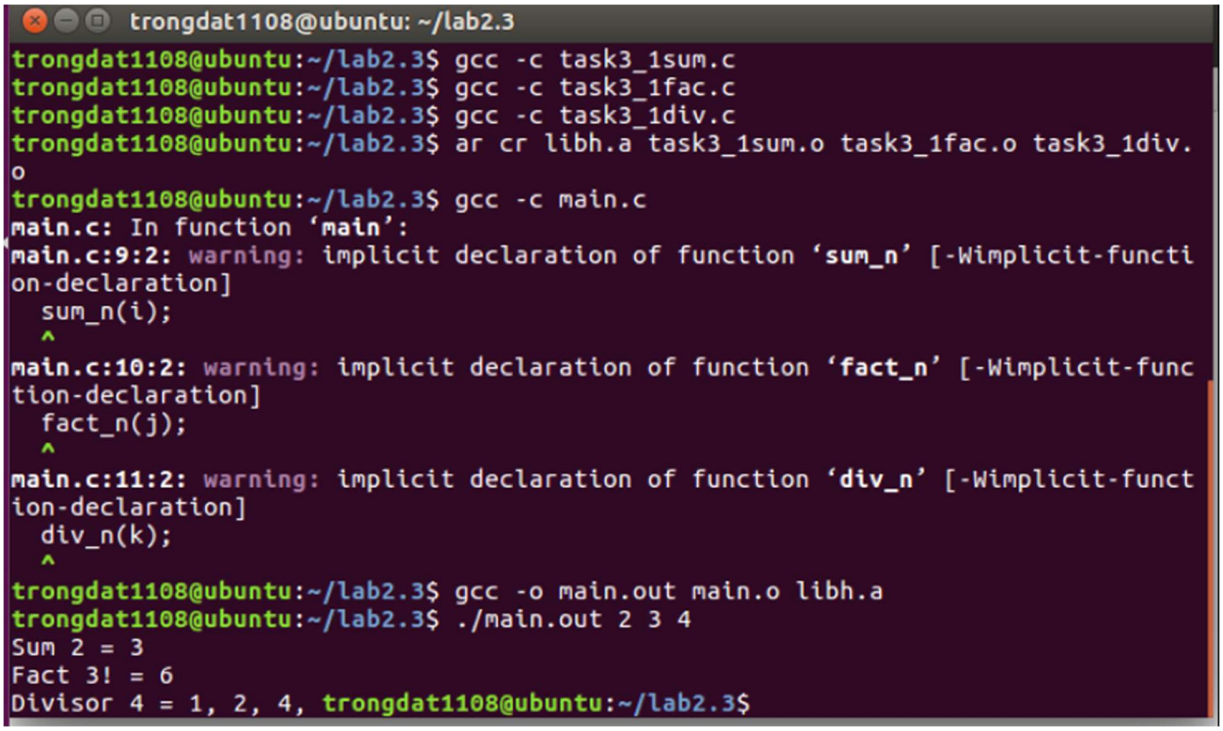
```c
#include <stdio.h>
#include <stdlib.h>

void div_n(int n)
{
        int i;
        printf("Divisor %d = ", n);
        for(i = 1; i <= n; i++)
        {
                if(n%i == 0)
                {
                        printf("%d, ", i);
                }
        }
}
```

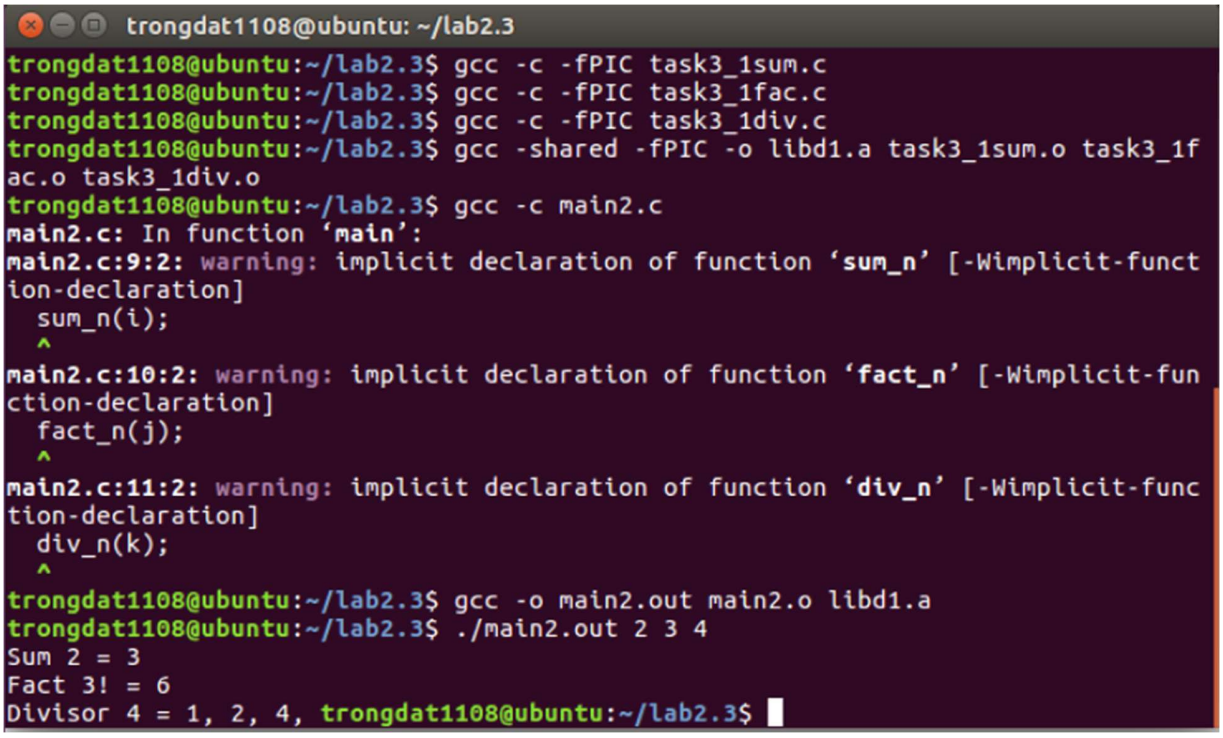
main.c × task3_1div.c × task3_1fac.c × task3_1sum.c × main2.c

```c
#include <stdio.h>
#include <stdlib.h>

void fact_n(int n)
{
        int i, sum = 1;
        for(i = 1; i <= n; i++)
        {
                sum = sum*i;
        }
printf("Fact %d! = %d\n", n, sum);
}
```


trongdat1108@ubuntu: ~/lab2.3
trongdat1108@ubuntu:~/lab2.3$ gcc -c task3_1sum.c
trongdat1108@ubuntu:~/lab2.3$ gcc -c task3_1fac.c
trongdat1108@ubuntu:~/lab2.3$ gcc -c task3_1div.c
trongdat1108@ubuntu:~/lab2.3$ ar cr libh.a task3_1sum.o task3_1fac.o task3_1div.
o
trongdat1108@ubuntu:~/lab2.3$ gcc -c main.c
main.c: In function ‘main’:
main.c:9:2: warning: implicit declaration of function ‘sum_n’ [-Wimplicit-functi
on-declaration]
sum_n(i);
^
main.c:10:2: warning: implicit declaration of function ‘fact_n’ [-Wimplicit-func
tion-declaration]
fact_n(j);
^
main.c:11:2: warning: implicit declaration of function ‘div_n’ [-Wimplicit-funct
ion-declaration]
div_n(k);
^
trongdat1108@ubuntu:~/lab2.3$ gcc -o main.out main.o libh.a
trongdat1108@ubuntu:~/lab2.3$ ./main.out 2 3 4
Sum 2 = 3
Fact 3! = 6
Divisor 4 = 1, 2, 4, trongdat1108@ubuntu:~/lab2.3$

Câu 2:


trongdat1108@ubuntu: ~/lab2.3
trongdat1108@ubuntu:~/lab2.3$ gcc -c -fPIC task3_1sum.c
trongdat1108@ubuntu:~/lab2.3$ gcc -c -fPIC task3_1fac.c
trongdat1108@ubuntu:~/lab2.3$ gcc -c -fPIC task3_1div.c
trongdat1108@ubuntu:~/lab2.3$ gcc -shared -fPIC -o libd1.a task3_1sum.o task3_1fac.o task3_1div.o
trongdat1108@ubuntu:~/lab2.3$ gcc -c main2.c
main2.c: In function 'main':
main2.c:9:2: warning: implicit declaration of function 'sum_n' [-Wimplicit-function-declaration]
sum_n(i);
^
main2.c:10:2: warning: implicit declaration of function 'fact_n' [-Wimplicit-function-declaration]
fact_n(j);
^
main2.c:11:2: warning: implicit declaration of function 'div_n' [-Wimplicit-function-declaration]
div_n(k);
^
trongdat1108@ubuntu:~/lab2.3$ gcc -o main2.out main2.o libd1.a
trongdat1108@ubuntu:~/lab2.3$ ./main2.out 2 3 4
Sum 2 = 3
Fact 3! = 6
Divisor 4 = 1, 2, 4, trongdat1108@ubuntu:~/lab2.3$