Question 1:

```
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ gcc Q1.c
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
 Type an input:
[abc
[String you entered abc[lsaad1@gsuad.gsu.edu@snowball Lab4]$ vi Q1.c
```

laurasaad — lsaad1@gsuad.gsu.edu@snowball:~/Lab4 — ssh lsaad1@snowball.c...

```
#include <stdio.h>
int main() {
char inputstr[10];
printf("Type an input: \n");
scanf("%s",inputstr);
printf("String you entered %s", inputstr);
return 0;
}
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
"Q1.c" 8L, 157C                                    4,1           All
```

q2

laurasaad — lsaad1@gsuad.gsu.edu@snowball:~/Lab4 — ssh lsaad1@snowball.c...

```
#include <stdio.h>

int main() {
char inputstr[10];
printf(" \n Enter a input to check for int : ");
scanf("%s",inputstr);
int a;
a = atoi(inputstr);
printf("you entered %d\n", a);
return 0;
}
~
~
~
~
~
~
~
~
~
~
~
~
~
"int_input.c" 11L, 193C                            1,1           All
```

```
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out

[ Enter a input to check for int : 12
 you entered 12
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out

[ Enter a input to check for int : abc
 you entered 0
```

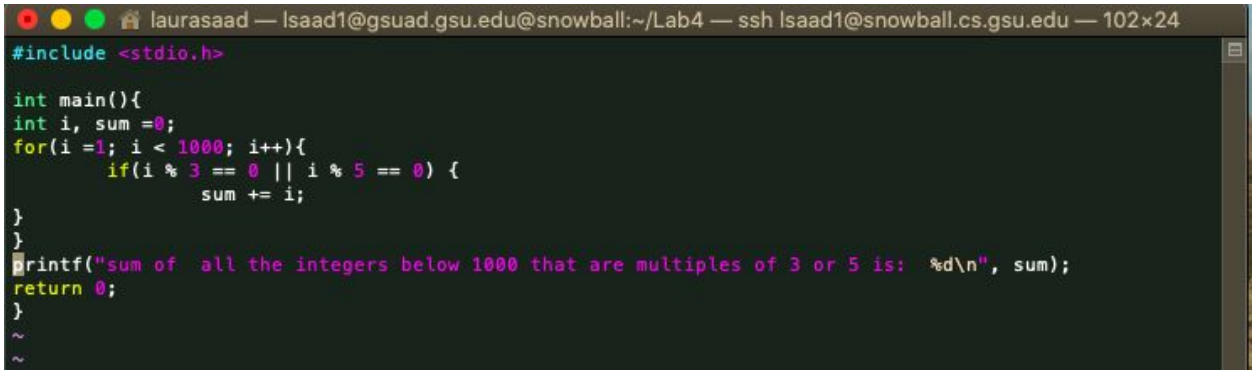
Q3:

laurasaad — lsaad1@gsuad.gsu.edu@snowball:~/Lab4 — ssh lsaad1@snowball.c...

```
#include <stdio.h>

int main() {
int year;

printf("Enter  year: \n");
scanf("%d",&year);
if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {

        printf("%d is a leap year \n",year);

}else {

        printf("%d is not a leap year \n",year);
}
    return 0;
}
~
~
~
~
~
"LeapYear.c" 18L, 267C                                    18,2          All
```

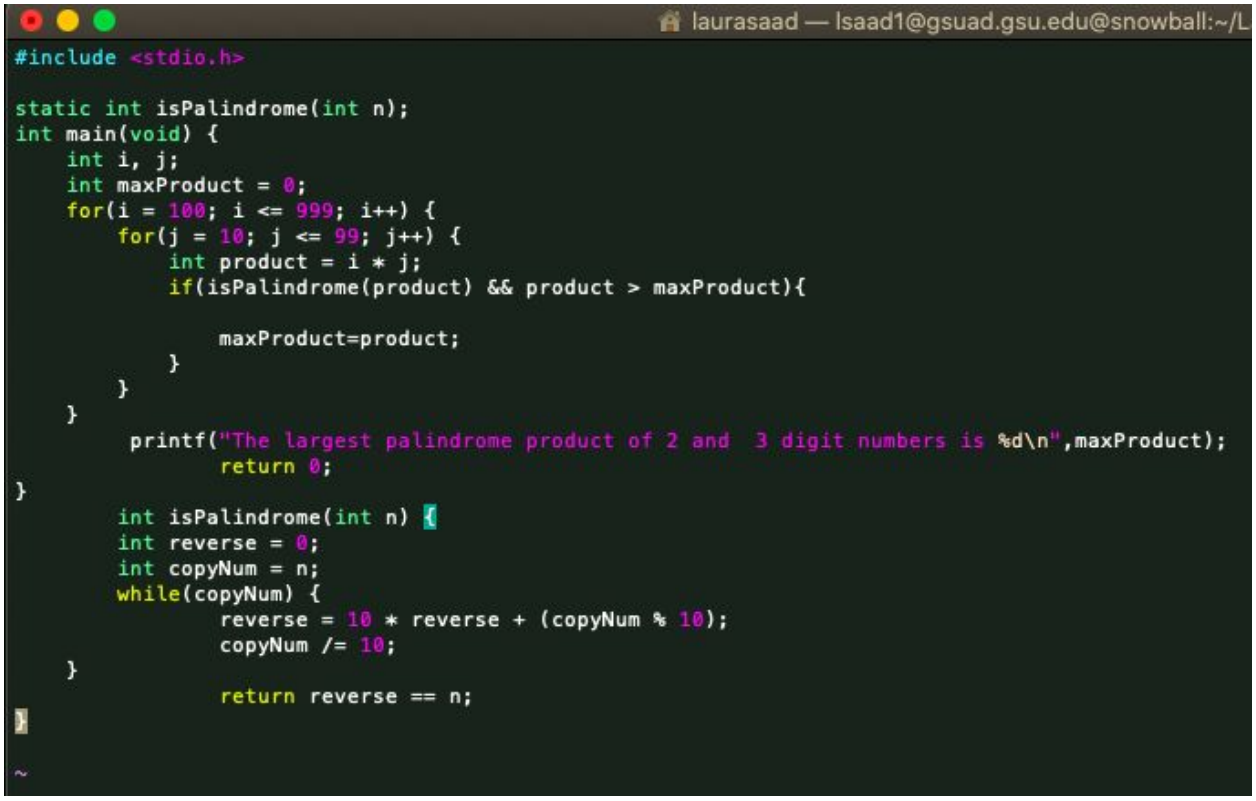
```
[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter  year:
2001
2001 is not a leap year
[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter  year:
2000
2000 is a leap year
[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter  year:
1996
1996 is a leap year
```

Q4




```
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
sum of  all the integers below 1000 that are multiples of 3 or 5 is:  233168
[lsaad1@gsuad.gsu.edu@snowball Lab4]$
```

Q5.




```
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ gcc isPalindrome.c
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
The largest palindrome product of 2 and  3 digit numbers is 94149
[lsaad1@gsuad.gsu.edu@snowball Lab4]$
```

Q4

Terminal Shell Edit View Window Help

laurasaad — lsaad1@gsuad.gsu.edu@snowball:~/Lab4 — ssh lsaad1@snowball.cs.gsu.edu — 116×46

```
#include <stdio.h>
#include <string.h>

void conv(char *number){
        char *Ones[19] = {"One", "two", "Three", "four","five", "six", "seven", "eight", "nine", "ten", "eleven", "t
welve", "thirteen", "fourteen", "fifteen", "sixteen", "seventeen", "eighteen", "nineteen"};
        char *Tens[8] = {"twenty", "thirty", "fourty", "fifty", "sixty", "seventy", "eighty", "ninety"};

        int i = atoi(number), j, k;
        if(i < 20) {
                printf("%s \n", Ones[i - 1]);
        }
        else if (i == 40){
                printf("\n");
        }
        else if (i >= 20 && i % 10 == 0){
                printf("%s \n", Tens[i / 10 - 2]);
        }
        else {

                printf("%s", Tens[i / 10 - 2]);
                printf("%s \n", Ones[i % 10 - 1]);

        }

}

        int main(void) {
                conv("6");
                conv("20");
                conv("35");
                conv("4");
                conv("70");
                return 0;
}
~
```

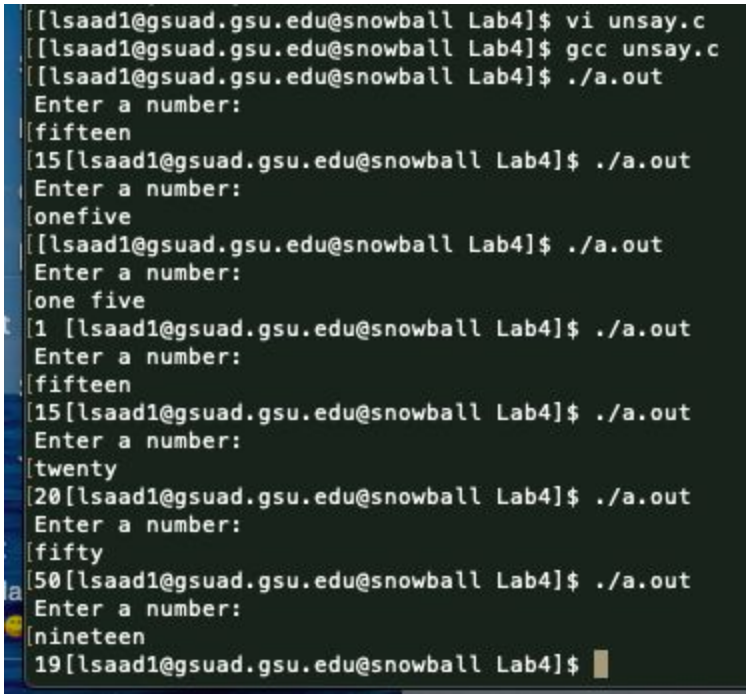
```
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ vi  say.c
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ gcc say.c
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
six
twenty
thirtyfive
four
seventy
[lsaad1@gsuad.gsu.edu@snowball Lab4]$
```

Q7:

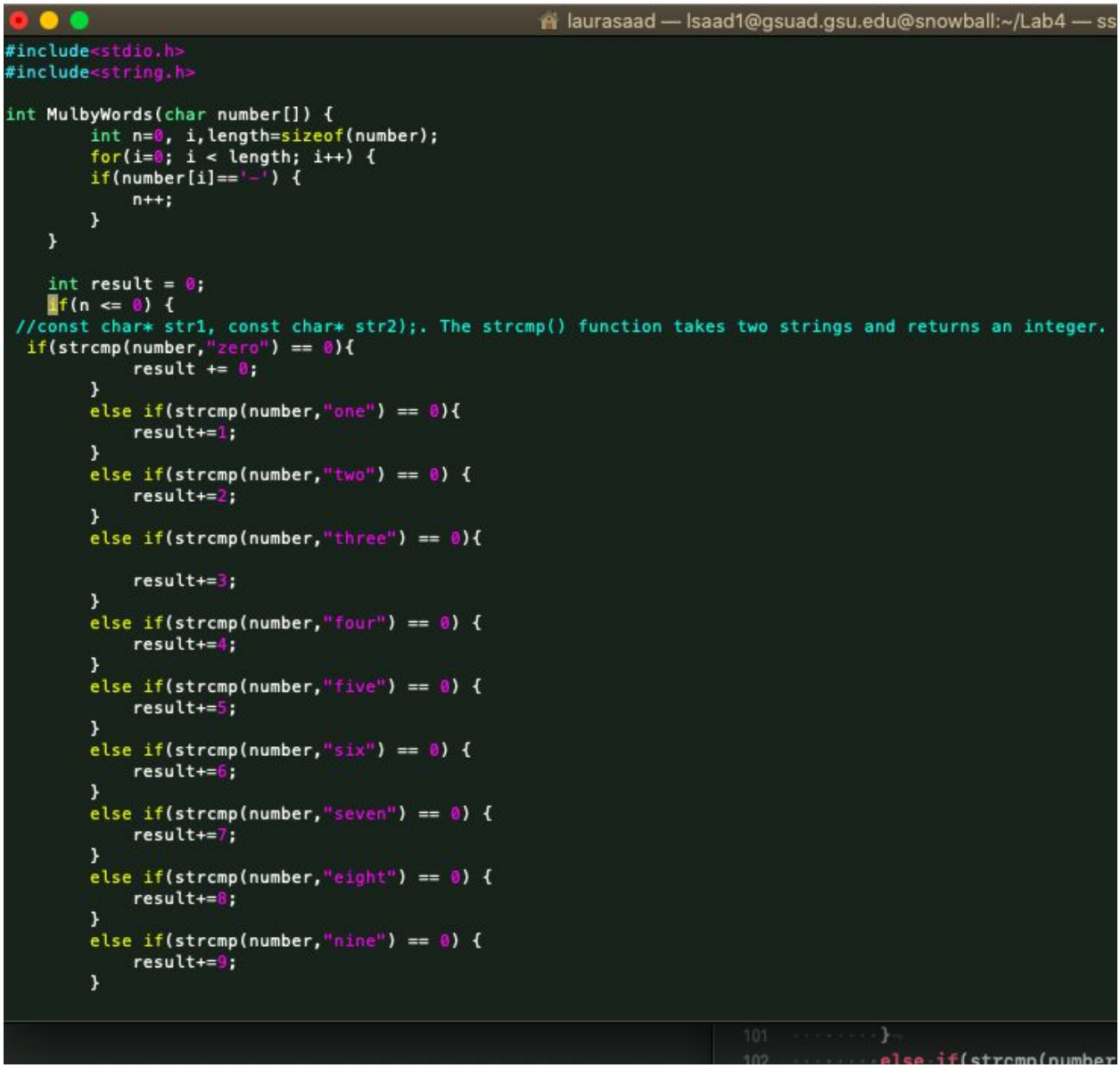
```c
#include<stdio.h>
#include<string.h>

int main() {

    printf("Enter a number: \n");

    char number[10];
    scanf("%s", number);


        int n=0, i,length=sizeof(number);
        for(i=0; i < length; i++) {
        if(number[i]=='-') {
            n++;
        }
    }

        //const char* str1, const char* str2);. The strcmp() function takes two strings and returns an integer.
                 if(n <= 0) {

        if(strcmp(number,"zero") == 0){
            printf("0 ");
        }
        else if(strcmp(number,"one") == 0){
           printf("1 ");
        }
        else if(strcmp(number,"two") == 0) {
            printf("2");
        }
        else if(strcmp(number,"three") == 0){

           printf("3");
        }
        else if(strcmp(number,"four") == 0) {
           printf("4");
        }
        else if(strcmp(number,"five") == 0) {
           printf("5");
        }
        else if(strcmp(number,"six") == 0) {
            printf("6");

        }
        else if(strcmp(number,"seven") == 0) {
          printf("7");
        }
        else if(strcmp(number,"eight") == 0) {
            printf("8");
        }
        else if(strcmp(number,"nine") == 0) {
            printf("9");
        }
        if(strcmp(number,"ten") == 0) {
            printf("10");
        }
        else if(strcmp(number,"eleven") == 0)  {
            printf("11");
        }
        else if(strcmp(number,"twelve") == 0 ) {

            printf("12");
```

```
            printf("14");
        }
        else if(strcmp(number,"fifteen") == 0) {

            printf("15");
        }
        else if(strcmp(number,"sixteen") == 0) {

            printf("16");
        }
        else if(strcmp(number,"seventeen") == 0) {

            printf("17");
        }
        else if(strcmp(number,"eighteen") == 0) {

             printf("18");
        }
        else if(strcmp(number,"nineteen") == 0) {

            printf("19");
        }
        else if(strcmp(number,"twenty") == 0) {

             printf("20");
        }
        else if(strcmp(number,"thirty") == 0) {

             printf("30");
        }
        else if(strcmp(number,"fourty") == 0) {

             printf("40");
        }
        else if(strcmp(number,"fifty") == 0) {

             printf("50");
        }
        else if(strcmp(number,"sixty") == 0) {

             printf("60");
        }
        else if(strcmp(number,"seventy") == 0) {

             printf("70");
        }
        else if(strcmp(number,"eighty") == 0) {

             printf("80");
        }
        else if(strcmp(number,"ninety") == 0) {

             printf("80");
        }
    }
    else {
        //strchr(const char *str, int c) searches for the first occurrence of //the character c (an unsigned char) in the string

        int dash='-';
        char *ones = strchr(number, dash) + 1;
        int arr = strchr(number,dash) - number;
-- INSERT --
```

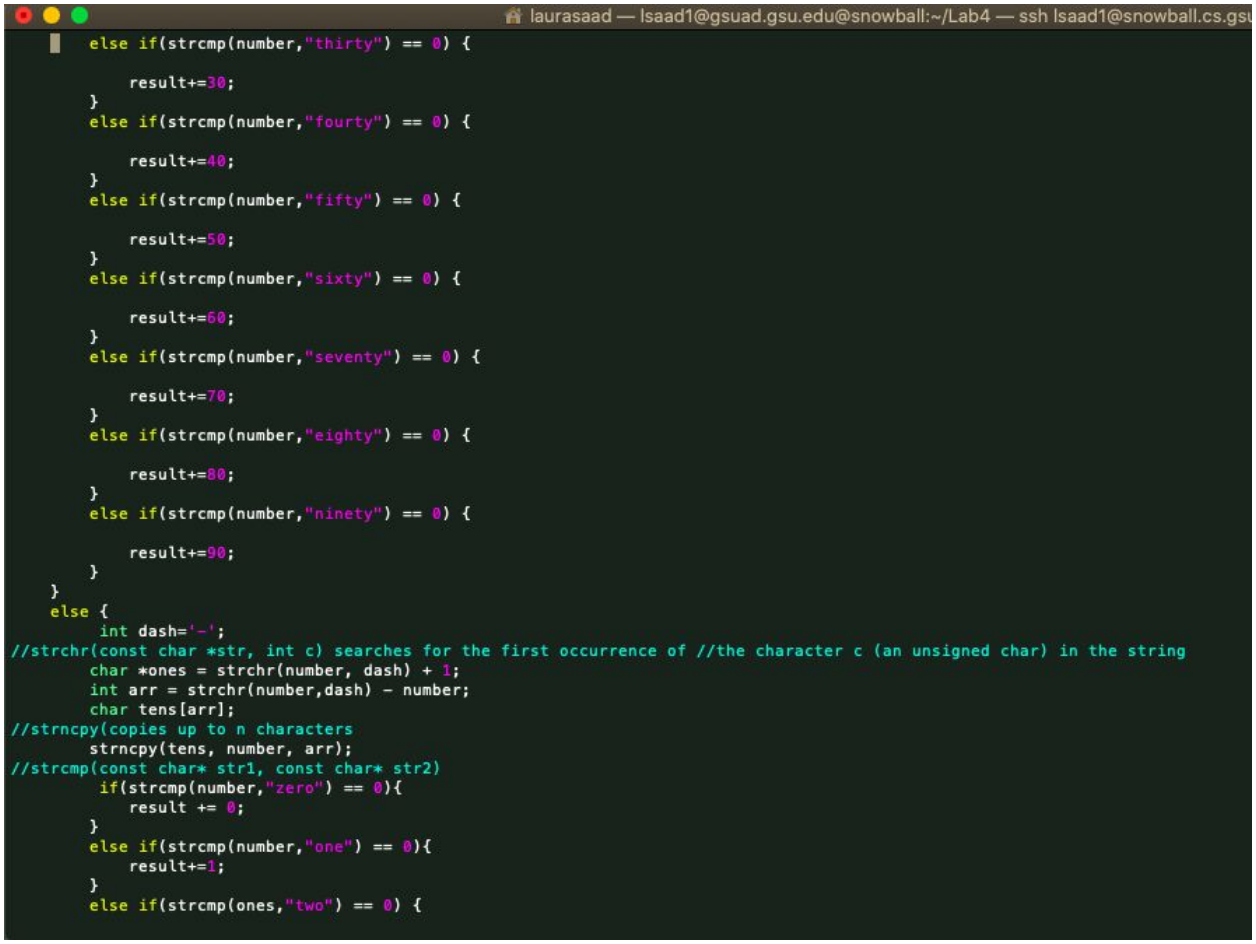
```
        char *ones = strchr(number, dash) + 1;
        int arr = strchr(number,dash) - number;
        char tens[arr];
//strncpy(copies up to n characters
        strncpy(tens, number, arr);
//strcmp(const char* str1, const char* str2)
        if(strcmp(number,"zero") == 0){
            printf("0");
        }
        else if(strcmp(number,"one") == 0){
            printf("1");
        }
        else if(strcmp(ones,"two") == 0) {
            printf("2");
        }
        else if(strcmp(ones,"three") == 0) {
            printf("3");
        }
        else if(strcmp(ones,"four") == 0) {
           printf("4");
        }
        else if(strcmp(ones,"five") == 0) {
            printf("5");
        }
        else if(strcmp(ones,"six") == 0) {
            printf("06");
        }
        else if(strcmp(ones,"seven") == 0) {
            printf("07");
        }
        else if(strcmp(ones,"eight") == 0)   {
            printf("8");
        }
        else if(strcmp(ones,"nine") == 0) {
            printf("9");
        }
        if(strcmp(tens,"twenty") == 0) {
            printf("20");
        }
        else if(strcmp(tens,"thirty") == 0) {
            printf("30");
        }
        else if(strcmp(tens,"fourty") == 0) {
            printf("40");
        }
        else if(strcmp(tens,"fifty") == 0) {
            printf("50");
        }
        else if(strcmp(tens,"sixty") == 0) {
            printf("60");
        }
        else if(strcmp(tens,"seventy") == 0){
            printf("70");
        }
        else if(strcmp(tens,"eighty") == 0){
            printf("80");
        }
        else if(strcmp(tens,"ninety") == 0) {
            printf("90");
        }
}
return 0;
-- INSERT --
```


[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ vi unsay.c
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ gcc unsay.c
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter a number:
[fifteen
[15[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter a number:
[onefive
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter a number:
[one five
[1 [lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter a number:
[fifteen
[15[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter a number:
[twenty
[20[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter a number:
[fifty
[50[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
Enter a number:
[nineteen
19[lsaad1@gsuad.gsu.edu@snowball Lab4]$

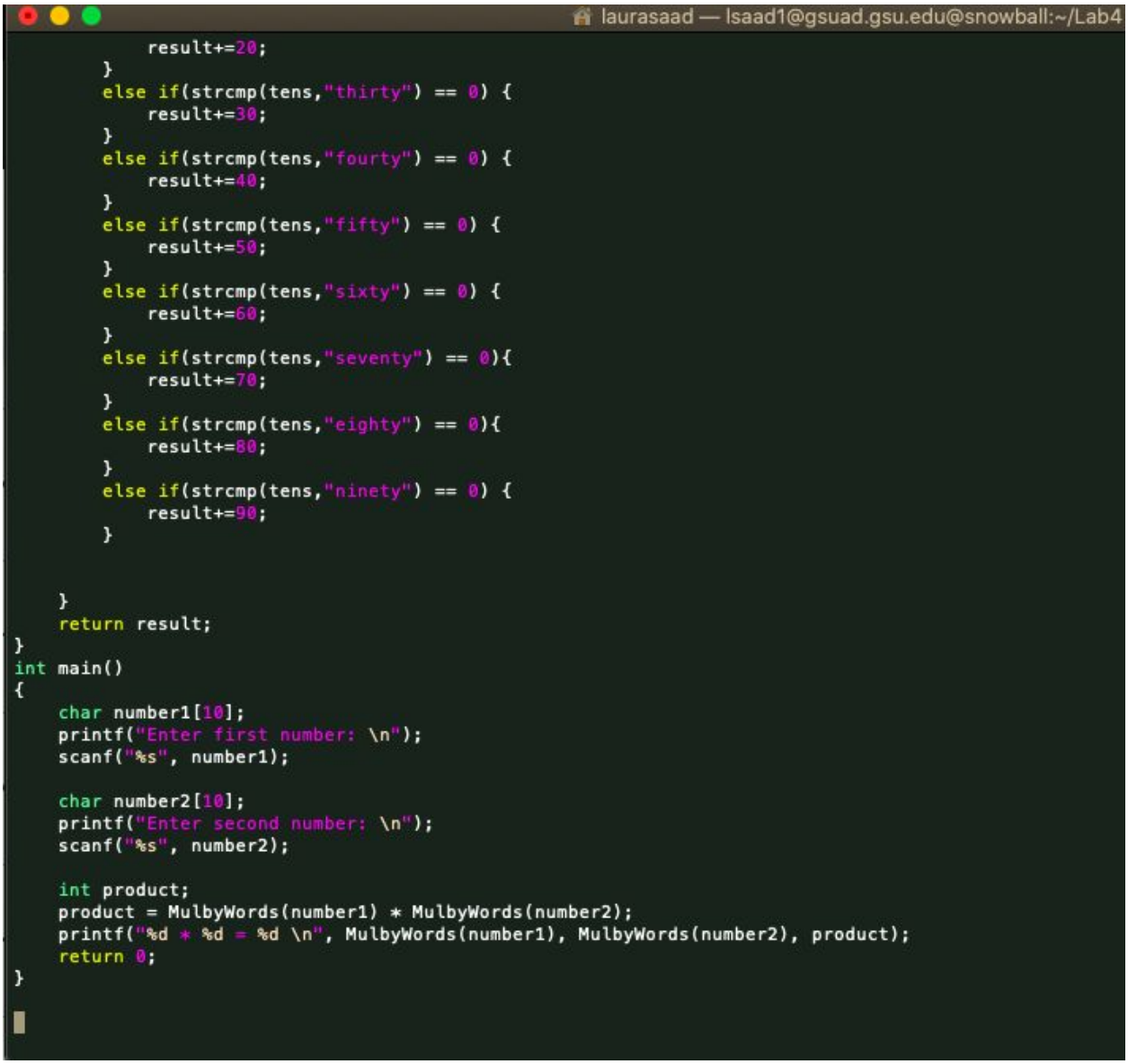
Q8.


laurasaad — lsaad1@gsuad.gsu.edu@snowball:~/Lab4 — ss
#include<stdio.h>
#include<string.h>
int MulbyWords(char number[]) {
int n=0, i,length=sizeof(number);
for(i=0; i < length; i++) {
if(number[i]=='-') {
n++;
}
}
int result = 0;
if(n <= 0) {
//const char* str1, const char* str2);. The strcmp() function takes two strings and returns an integer.
if(strcmp(number,"zero") == 0){
result += 0;
}
else if(strcmp(number,"one") == 0){
result+=1;
}
else if(strcmp(number,"two") == 0) {
result+=2;
}
else if(strcmp(number,"three") == 0){
result+=3;
}
else if(strcmp(number,"four") == 0) {
result+=4;
}
else if(strcmp(number,"five") == 0) {
result+=5;
}
else if(strcmp(number,"six") == 0) {
result+=6;
}
else if(strcmp(number,"seven") == 0) {
result+=7;
}
else if(strcmp(number,"eight") == 0) {
result+=8;
}
else if(strcmp(number,"nine") == 0) {
result+=9;
}
101 ....}
102 ....else if(strcmp(number


laurasaad — lsaad1@gsuad.gsu
if(strcmp(number,"ten") == 0) {
result+=10;
}
else if(strcmp(number,"eleven") == 0) {
result+=11;
}
else if(strcmp(number,"twelve") == 0) {
result+=12;
}
else if(strcmp(number,"thirteen") == 0) {
result+=13;
}
else if(strcmp(number,"fourteen") == 0){
result+=14;
}
else if(strcmp(number,"fifteen") == 0) {
result+=15;
}
else if(strcmp(number,"sixteen") == 0) {
result+=16;
}
else if(strcmp(number,"seventeen") == 0) {
result+=17;
}
else if(strcmp(number,"eighteen") == 0) {
result+=18;
}
else if(strcmp(number,"nineteen") == 0) {
result+=19;
}
else if(strcmp(number,"twenty") == 0) {
result+=20;
}
else if(strcmp(number,"thirty") == 0) {
result+=30;


laurasaad — lsaad1@gsuad.gsu.edu@snowball:~/Lab4 — ssh lsaad1@snowball.cs.gsu
else if(strcmp(number,"thirty") == 0) {
result+=30;
}
else if(strcmp(number,"fourty") == 0) {
result+=40;
}
else if(strcmp(number,"fifty") == 0) {
result+=50;
}
else if(strcmp(number,"sixty") == 0) {
result+=60;
}
else if(strcmp(number,"seventy") == 0) {
result+=70;
}
else if(strcmp(number,"eighty") == 0) {
result+=80;
}
else if(strcmp(number,"ninety") == 0) {
result+=90;
}
}
else {
int dash='-';
//strchr(const char *str, int c) searches for the first occurrence of //the character c (an unsigned char) in the string
char *ones = strchr(number, dash) + 1;
int arr = strchr(number,dash) - number;
char tens[arr];
//strncpy(copies up to n characters
strncpy(tens, number, arr);
//strcmp(const char* str1, const char* str2)
if(strcmp(number,"zero") == 0){
result += 0;
}
else if(strcmp(number,"one") == 0){
result+=1;
}
else if(strcmp(ones,"two") == 0) {


laurasaad — lsaad1@gsua
result+=1;
}
else if(strcmp(ones,"two") == 0) {
result+=2;
}
else if(strcmp(ones,"three") == 0) {
result+=3;
}
else if(strcmp(ones,"four") == 0) {
result+=4;
}
else if(strcmp(ones,"five") == 0) {
result+=5;
}
else if(strcmp(ones,"six") == 0) {
result+=6;
}
else if(strcmp(ones,"seven") == 0) {
result+=7;
}
else if(strcmp(ones,"eight") == 0) {
result+=8;
}
else if(strcmp(ones,"nine") == 0) {
result+=9;
}
if(strcmp(tens,"twenty") == 0) {
result+=20;
}
else if(strcmp(tens,"thirty") == 0) {
result+=30;
}
else if(strcmp(tens,"fourty") == 0) {
result+=40;
}
else if(strcmp(tens,"fifty") == 0) {
result+=50;
}
else if(strcmp(tens,"sixty") == 0) {
result+=60;
}
else if(strcmp(tens,"seventy") == 0){
result+=70;
}
else if(strcmp(tens,"eighty") == 0){


laurasaad — lsaad1@gsuad.gsu.edu@snowball:~/Lab4
result+=20;
}
else if(strcmp(tens,"thirty") == 0) {
result+=30;
}
else if(strcmp(tens,"fourty") == 0) {
result+=40;
}
else if(strcmp(tens,"fifty") == 0) {
result+=50;
}
else if(strcmp(tens,"sixty") == 0) {
result+=60;
}
else if(strcmp(tens,"seventy") == 0){
result+=70;
}
else if(strcmp(tens,"eighty") == 0){
result+=80;
}
else if(strcmp(tens,"ninety") == 0) {
result+=90;
}
}
return result;
}
int main()
{
char number1[10];
printf("Enter first number: \n");
scanf("%s", number1);
char number2[10];
printf("Enter second number: \n");
scanf("%s", number2);
int product;
product = MulbyWords(number1) * MulbyWords(number2);
printf("%d * %d = %d \n", MulbyWords(number1), MulbyWords(number2), product);
return 0;
}

```
[0 * 50 = 0[lsaad1@gsuad.gsu.edu@snowball Lab4]$ vi MulByWords.c
 [lsaad1@gsuad.gsu.edu@snowball Lab4]$ gcc MulByWords.c
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
[Enter first number:
[ninety
 Enter second number:
[twenty
 90 * 20 = 1800
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
[Enter first number:
[seven
[Enter second number:
 eleven
[7 * 11 = 77
 [lsaad1@gsuad.gsu.edu@snowball Lab4]$ ./a.out
[Enter first number:
 three
[Enter second number:
 eleven
[3 * 11 = 33
 [lsaad1@gsuad.gsu.edu@snowball Lab4]$ vi MulByWords.c
[[lsaad1@gsuad.gsu.edu@snowball Lab4]$
```