

## PRACTICE LAB ASSIGNMENT 2

1. Write a program to read 10 integers. Display these numbers by printing three numbers in a line separated by commas.

### CODE

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

```
int main()
```

```
{
```

```
int a, b, c, d, e, f, g, h, i, j;
```

```
printf("Enter 10 integers")/a, b, c, d, e, f, g, h, i, j;
```

```
scanf("%d%d%d%d%d%d%d%d%d%d", &a, &b, &c, &d, &e, &f, &g, &h, &i, &j);
```

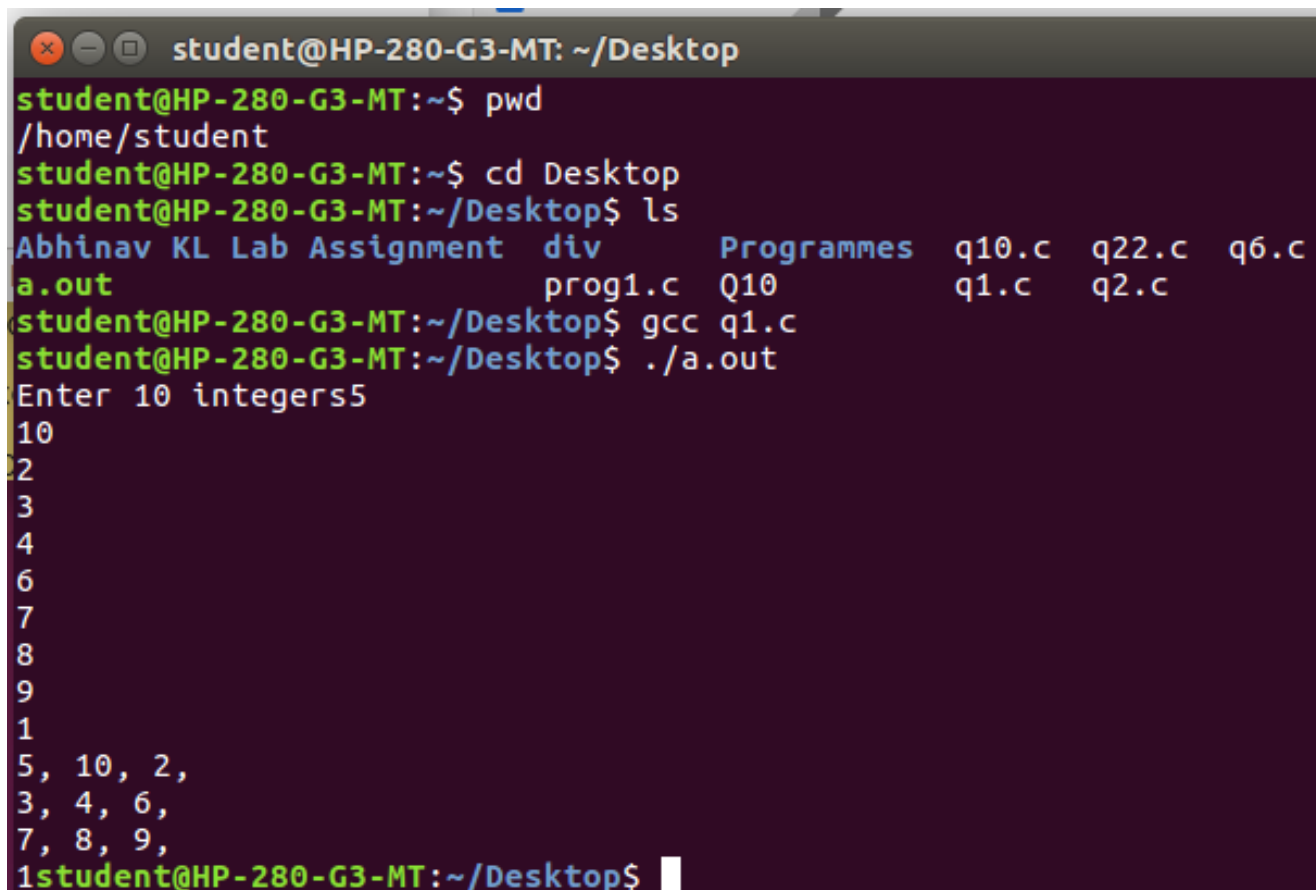
```
printf("%d, %d, %d, \n%d, %d, %d, \n%d, %d, %d, \n%d", a, b, c, d, e, f, g, h, i, j);
```

```
return 0;
```

```
}
```

```
#include<stdio.h>
int main()
{
int a, b, c, d, e, f, g, h, i, j;
printf("Enter 10 integers")/a, b, c, d, e, f, g, h, i, j;
scanf("%d%d%d%d%d%d%d%d%d%d", &a, &b, &c, &d, &e, &f, &g, &h, &i, &j);
printf("%d, %d, %d, \n%d, %d, %d, \n%d, %d, %d, \n%d", a, b, c, d, e, f, g, h, i, j);
return 0;
}
```

### SS of the OUTPUT



```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  div          Programmes  q10.c  q22.c  q6.c
a.out                      prog1.c  Q10        q1.c   q2.c
student@HP-280-G3-MT:~/Desktop$ gcc q1.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter 10 integers5
10
2
3
4
6
7
8
9
1
5, 10, 2,
3, 4, 6,
7, 8, 9,
1student@HP-280-G3-MT:~/Desktop$
```

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ROLL NO.: 2210110505

2. WAP to enter the temperature of a city in Fahrenheit Degree and convert it into Centigrade Degrees.

CODE

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

```
void main()
```

```
{
```

```
float f, c;
```

```
printf("Enter the temperature of a city in Fahrenheit Degree")/f;
```

```
scanf("%f%f", &f, &c);
```

```
c = (f-32)*(0.55556);
```

```
printf("The Celsius Degree Conversion is %f", c);
```

```
}
```

```
#include<stdio.h>
void main()
{
float f, c;
printf("Enter the temperature of a city in Fahrenheit Degree")/f;
scanf("%f%f", &f, &c);
c = (f-32)*(0.55556);
printf("The Celsius Degree Conversion is %f", c);
}
```

SS of the OUTPUT

```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  a.out  div  prog1.c  Programmes  q22.c  q2.c  q6.c
student@HP-280-G3-MT:~/Desktop$ gcc q2.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the temperature of a city in Fahrenheit Degree70
./a.out
The Celsius Degree Conversion is 21.111280student@HP-280-G3-MT:~/Desktop$
```

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3. WAP to print the ASCII value of a character that is being entered by the user.

CODE

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

```
int main()
```

```
{
```

```
char c;
```

```
printf("Enter any character to find out its ASCII value");
```

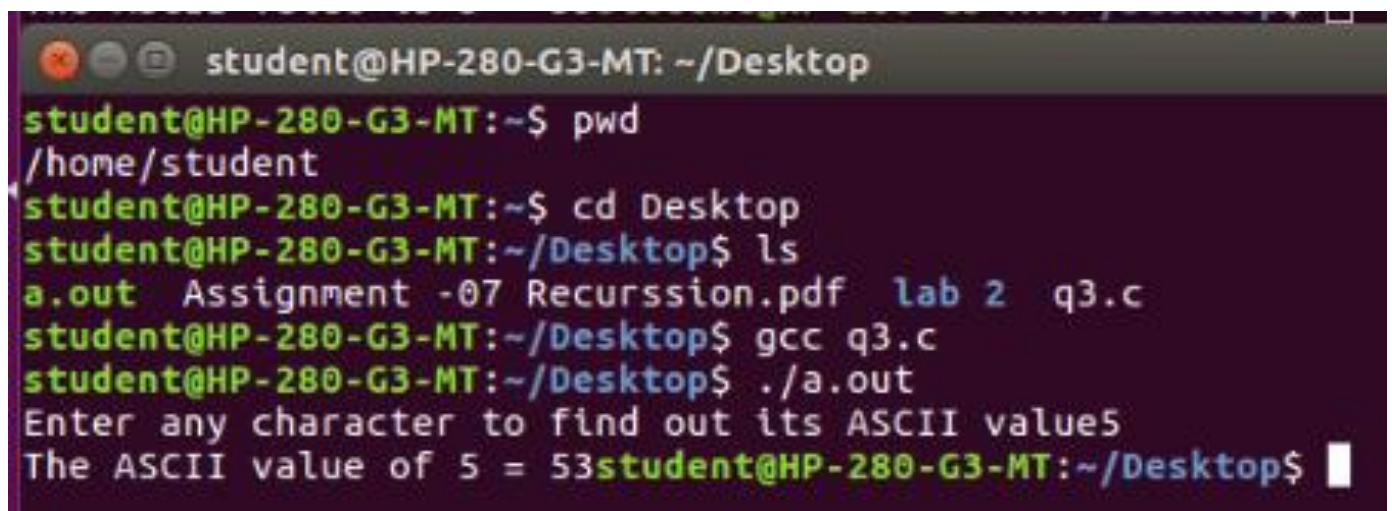
```
scanf("%c", &c);
```

```
printf("The ASCII value of %c = %d", c, c);
```

```
return 0;
```

```
}
```

SS of the OUTPUT



```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
a.out  Assignment -07 Recurssion.pdf  lab 2  q3.c
student@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any character to find out its ASCII value5
The ASCII value of 5 = 53student@HP-280-G3-MT:~/Desktop$
```

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4. WAP to print the digit at one's place in any number entered by the user.

### CODE

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

```
int main()
```

```
{
```

```
int n, a;
```

```
printf("Enter any number")/n;
```

```
scanf("%d%d", &n, &a);
```

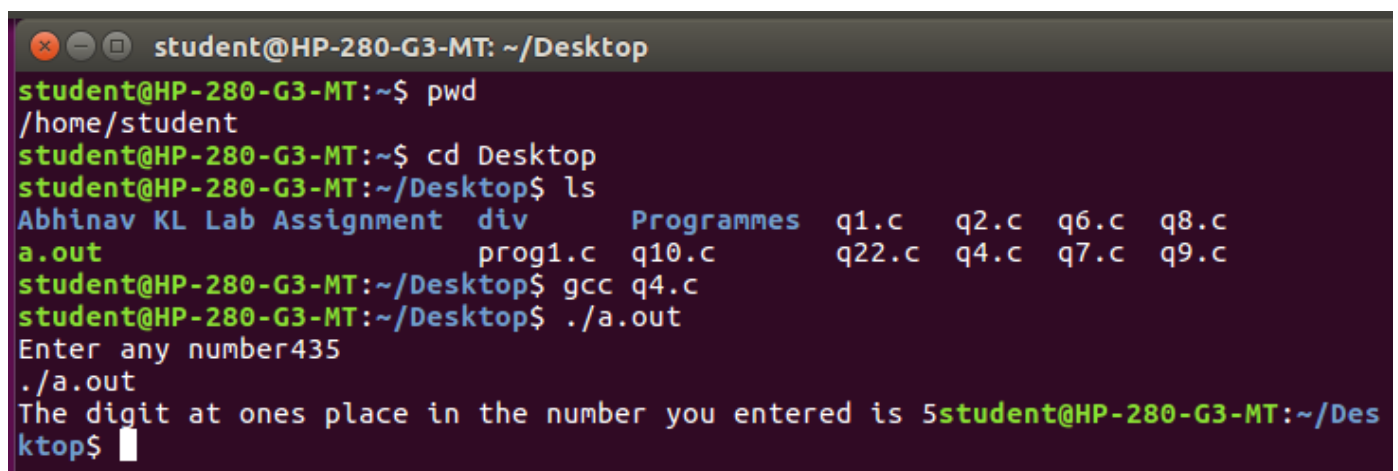
```
a = n%10;
```

```
printf("The digit at ones place in the number you entered is %d", a);
```

```
return 0;
```

```
}
```

### SS of the OUTPUT



```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  div      Programmes  q1.c  q2.c  q6.c  q8.c
a.out                      prog1.c  q10.c       q22.c  q4.c  q7.c  q9.c
student@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number435
./a.out
The digit at ones place in the number you entered is 5student@HP-280-G3-MT:~/Desktop$
```

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5. WAP that displays the size of every data type (int, long int, unsigned int, float, double, long double, char).

### CODE

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

```
int main()
```

```
{
```

```
int integerType;
```

```
long int longintegerType;
```

```
unsigned int unsignedintegerType;
```

```
float floatType;
```

```
double doubleType;
```

```
long double longdoubleType;
```

```
char charType;
```

```
printf("The size of int is: %ld", sizeof(integerType));
```

```
printf("The size of long int is: %ld", sizeof(longintegerType));
```

```
printf("The size of unsigned int is: %ld", sizeof(unsignedintegerType));
```

```
printf("The size of float is: %ld", sizeof(floatType));
```

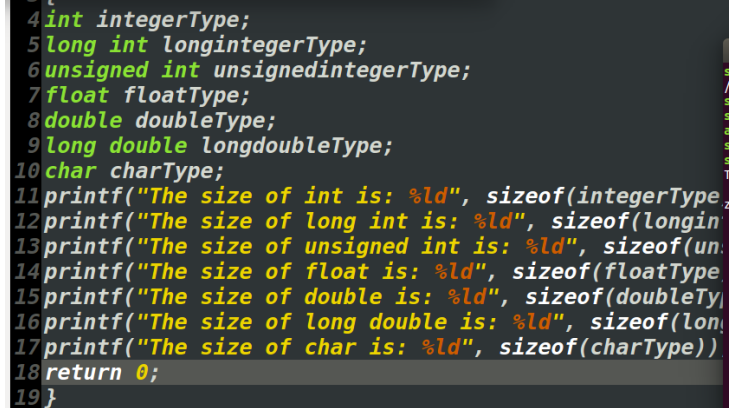
```
printf("The size of double is: %ld", sizeof(doubleType));
```

```
printf("The size of long double is: %ld", sizeof(longdoubleType));
```

```
printf("The size of char is: %ld", sizeof(charType));
```

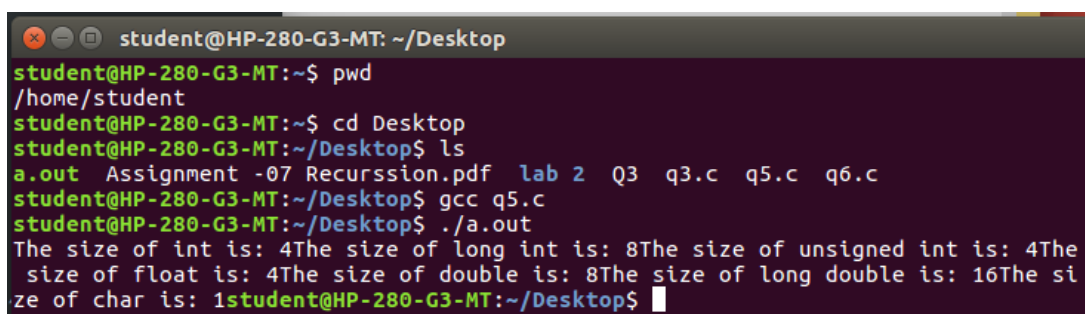
```
return 0;
```

```
}
```

A screenshot of a code editor showing the C code for finding the size of various data types. The code is color-coded: keywords like 'int', 'long', 'unsigned', 'float', 'double', 'long double', 'char', 'printf', and 'return' are in green, while variable names and other identifiers are in yellow. The code is as follows:

```
4 int integerType;
5 long int longintegerType;
6 unsigned int unsignedintegerType;
7 float floatType;
8 double doubleType;
9 long double longdoubleType;
10 char charType;
11 printf("The size of int is: %ld", sizeof(integerType));
12 printf("The size of long int is: %ld", sizeof(longintegerType));
13 printf("The size of unsigned int is: %ld", sizeof(unsignedintegerType));
14 printf("The size of float is: %ld", sizeof(floatType));
15 printf("The size of double is: %ld", sizeof(doubleType));
16 printf("The size of long double is: %ld", sizeof(longdoubleType));
17 printf("The size of char is: %ld", sizeof(charType));
18 return 0;
19 }
```

### SS of the OUTPUT

A screenshot of a terminal window showing the execution of the program. The terminal output is as follows:

```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
a.out Assignment -07 Recurssion.pdf lab 2 Q3 q3.c q5.c q6.c
student@HP-280-G3-MT:~/Desktop$ gcc q5.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
The size of int is: 4The size of long int is: 8The size of unsigned int is: 4The
size of float is: 4The size of double is: 8The size of long double is: 16The si
ze of char is: 1student@HP-280-G3-MT:~/Desktop$
```

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6. Write a program to read a character in upper case and then print it in lower case.

### CODE

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

```
int main()
```

```
{
```

```
char upperChar, lowerChar;
```

```
int ascii;
```

```
printf("Type any letter in caps")/upperChar;
```

```
scanf("%c%c%d", &upperChar, &lowerChar, &ascii);
```

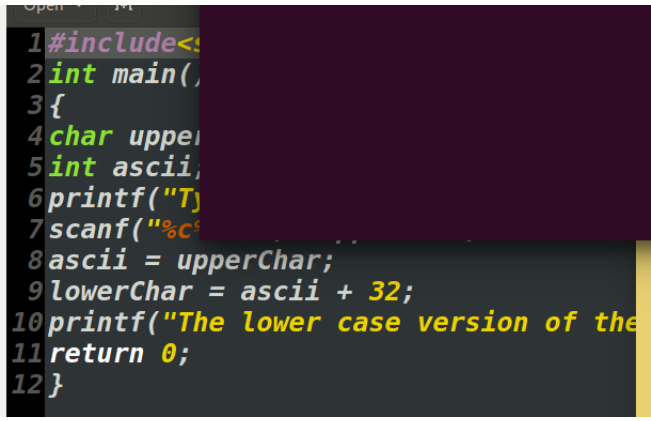
```
ascii = upperChar;
```

```
lowerChar = ascii + 32;
```

```
printf("The lower case version of the letter is %c", lowerChar);
```

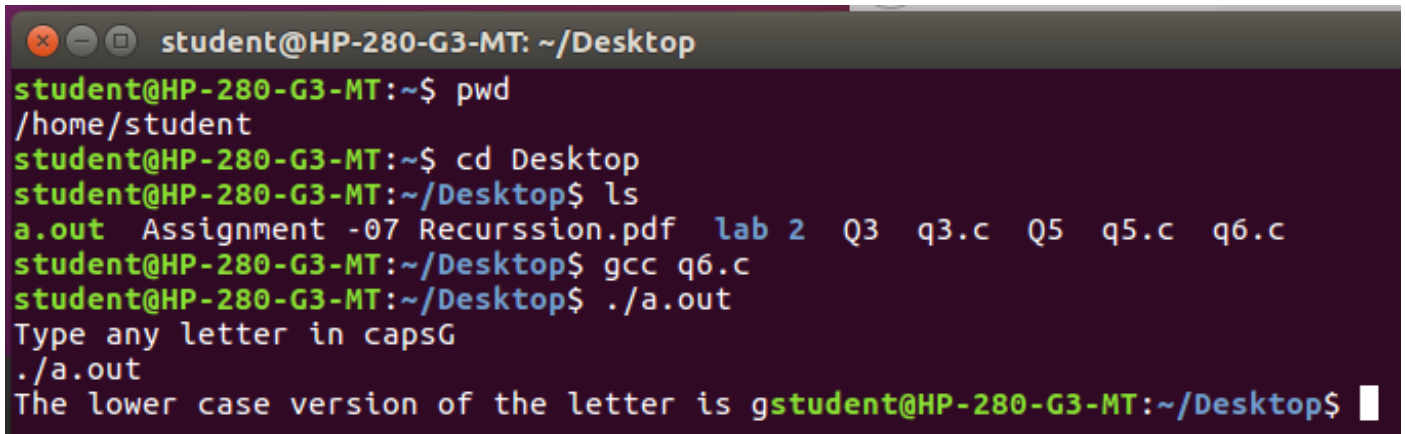
```
return 0;
```

```
}
```



```
1#include<stdio.h>
2int main()
3{
4char upperChar, lowerChar;
5int ascii;
6printf("Type any letter in caps");
7scanf("%c%c%d", &upperChar, &lowerChar, &ascii);
8ascii = upperChar;
9lowerChar = ascii + 32;
10printf("The lower case version of the letter is %c", lowerChar);
11return 0;
12}
```

### SS of the OUTPUT



```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
a.out  Assignment -07 Recurssion.pdf  lab 2  Q3  q3.c  Q5  q5.c  q6.c
student@HP-280-G3-MT:~/Desktop$ gcc q6.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Type any letter in capsG
./a.out
The lower case version of the letter is gstudent@HP-280-G3-MT:~/Desktop$
```

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7. Write a program to calculate the sum of all the digits in a number. A number must be a five-digit number only.

For Example: If input number = 12345

Output: 15

CODE

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

```
int main()
```

```
{
```

```
int n, a, b, c, d, e, sum ;
```

```
printf("Enter any 5-digit number")/n;
```

```
scanf("%d%d%d%d%d", &n, &a, &b, &c, &d, &e, &sum);
```

```
a = n/10000;
```

```
b = (n/1000) - (a*10);
```

```
c = (n/100) - (a*100) - (b*10);
```

```
d = (n/10) - (a*1000) - (b*100) - (c*10);
```

```
e = n%10;
```

```
sum = a + b + c + d + e;
```

```
printf("The sum of all the digits in the five digit number entered is %d", sum);
```

```
return 0;
```

```
}
```

```
#include<stdio.h>
int main()
{
    int n, a, b, c, d, e, sum ;
    printf("Enter any 5-digit number")/n;
    scanf("%d%d%d%d%d", &n, &a, &b, &c, &d, &e, &sum);
    a = n/10000;
    b = (n/1000) - (a*10);
    c = (n/100) - (a*100) - (b*10);
    d = (n/10) - (a*1000) - (b*100) - (c*10);
    e = n%10;
    sum = a + b + c + d + e;
    printf("The sum of all the digits in the five digit number entered is %d", sum);
    return 0;
}
```

SS of the OUTPUT

```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  div          Programmes  q1.c  q2.c  q4.c  q7.c  q9.c
a.out                      prog1.c  q10.c      q22.c  Q4    q6.c  q8.c
student@HP-280-G3-MT:~/Desktop$ gcc q7.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any 5-digit number53789
./a.out
The sum of all the digits in the five digit number entered is 32student@HP-280-G3-MT:~/Desktop$
```

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ROLL NO.: 2210110505

8. If a four-digit number is input through the keyboard, write a program to obtain the sum of the first and last digit of this number.

### CODE

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

```
int main()
```

```
{
```

```
int n, a, d, sum ;
```

```
printf("Enter any 4-digit number")/n;
```

```
scanf("%d%d%d%d", &n, &a, &d, &sum);
```

```
a = n/1000;
```

```
d = n%10;
```

```
sum = a + d;
```

```
printf("The sum of the first and last digit in the four digit number entered is %d", sum);
```

```
return 0;
```

```
}
```

```
#include<stdio.h>
int main()
{
    int n, a, d, sum ;
    printf("Enter any 4-digit number")/n;
    scanf("%d%d%d%d", &n, &a, &d, &sum);
    a = n/1000;
    d = n%10;
    sum = a + d;
    printf("The sum of the first and last digit in the four digit number entered is %d", sum);
    return 0;
}
```

### SS of the OUTPUT

```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  div      Programmes  q1.c  q2.c  q8.c
a.out                      prog1.c  q10.c      q22.c q6.c  q9.c
student@HP-280-G3-MT:~/Desktop$ gcc q8.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any 4-digit number5481
./a.out
The sum of the first and last digit in the four digit number entered is 6student
@HP-280-G3-MT:~/Desktop$
```



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9. If the total selling price of 15 items and the total profit earned on them is input through the keyboard, write a program to find the cost price of one item.

CODE

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

```
void main()
```

```
{
```

```
float sp, p, cp;
```

```
printf("Enter the total selling price of 15 objects and total profit earned on them respectively  
")/sp, p;
```

```
scanf("%f%f%f", &sp, &p, &cp);
```

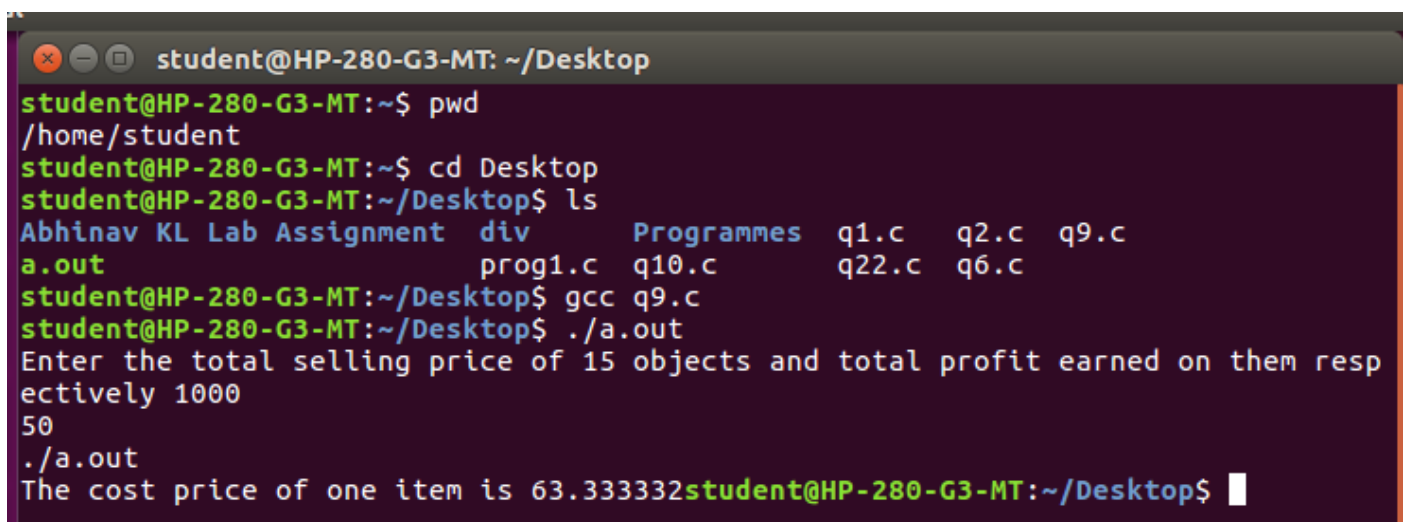
```
cp = (sp - p)/15;
```

```
printf("The cost price of one item is %f", cp);
```

```
}
```

```
void main()
{
float sp, p, cp;
printf("Enter the total selling price of 15 objects and total profit earned on them respectively ");
scanf("%f%f%f", &sp, &p, &cp);
cp = (sp - p)/15;
printf("The cost price of one item is %f", cp);
}
```

SS of the OUTPUT



```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  div      Programmes  q1.c  q2.c  q9.c
a.out                      prog1.c  q10.c      q22.c  q6.c
student@HP-280-G3-MT:~/Desktop$ gcc q9.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the total selling price of 15 objects and total profit earned on them respectively 1000
50
./a.out
The cost price of one item is 63.333332student@HP-280-G3-MT:~/Desktop$
```

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10.The distance between two cities (in km.) is input through the keyboard. Write a program to convert and print this distance in meters, feet, inches and centimeters.

## CODE

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

```
void main()
```

```
{
```

```
float n, m, f, i, cm;
```

```
printf("Enter the distance between two cities in kilometres")/n;
```

```
scanf("%f%f%f%f", &n, &m, &f, &i, &cm);
```

```
m = n * 1000;
```

```
f = n * 3280.8399;
```

```
i = n * 39370.0787;
```

```
cm = n * 100000;
```

```
printf("The distance in metres is %f \nThe distance in feet is %f \nThe distance in inches is %f \nThe distance in centimetres is %f", m, f, i, cm);
```

```
}
```

```
#include<stdio.h>
void main()
{
float n, m, f, i, cm;
printf("Enter the distance between two cities in kilometres")/n;
scanf("%f%f%f%f", &n, &m, &f, &i, &cm);
m = n * 1000;
f = n * 3280.8399;
i = n * 39370.0787;
cm = n * 100000;
printf("The distance in metres is %f \nThe distance in feet is %f \nThe distance in inches is %f \nThe distance in centimetres is %f", m, f, i, cm);
}
```

## SS of the OUTPUT

```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  div          Programmes  q1.c    q2.c
a.out                      prog1.c  q10.c      q22.c   q6.c
student@HP-280-G3-MT:~/Desktop$ gcc q10.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the distance between two cities in kilometres5
./a.out
The distance in metres is 5000.000000
The distance in feet is 16404.199219
The distance in inches is 196850.390625
The distance in centimetres is 500000.000000student@HP-280-G3-MT:~/Desktop$
```