Name: Rushikesh Pundlik Sonekar

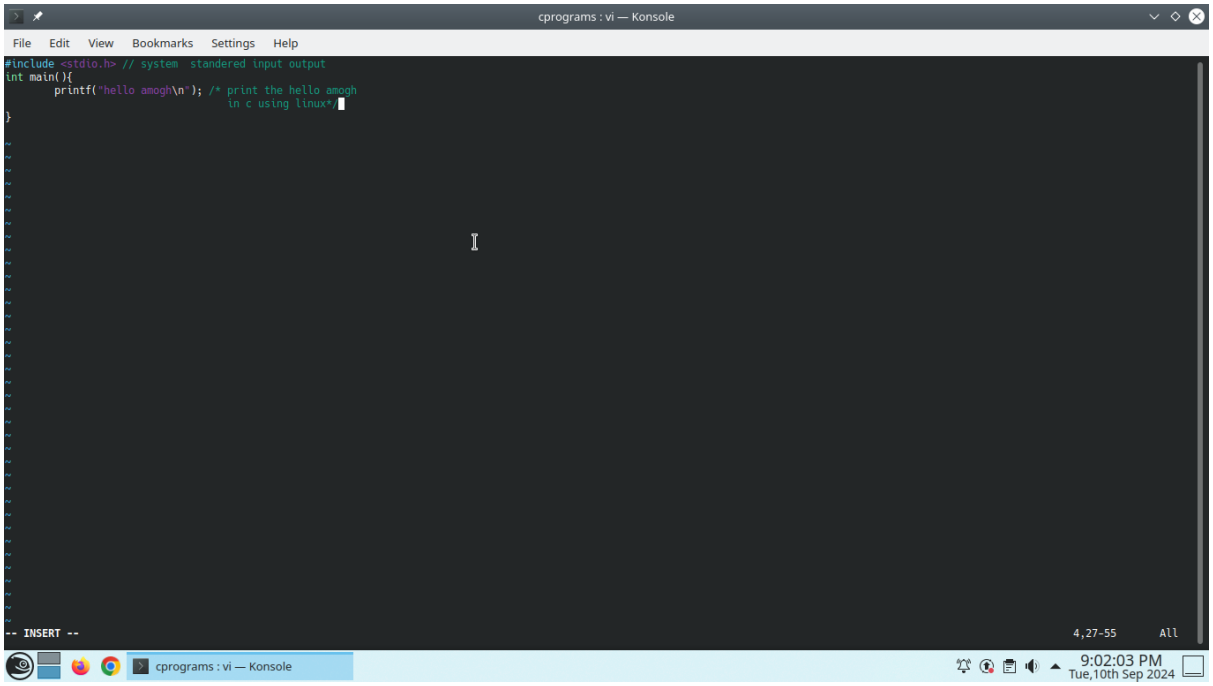
Roll No:-63

CPrograms

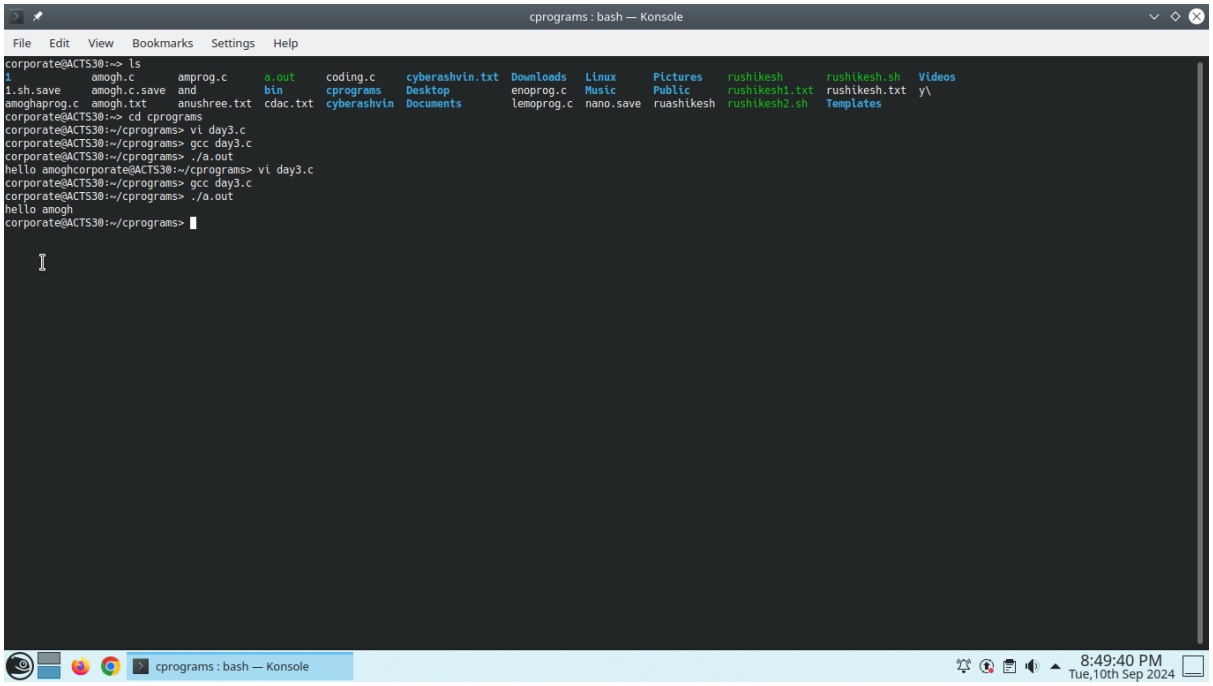
Q> Write a program to demonstrate different types of comments ?

1 Single line comment //

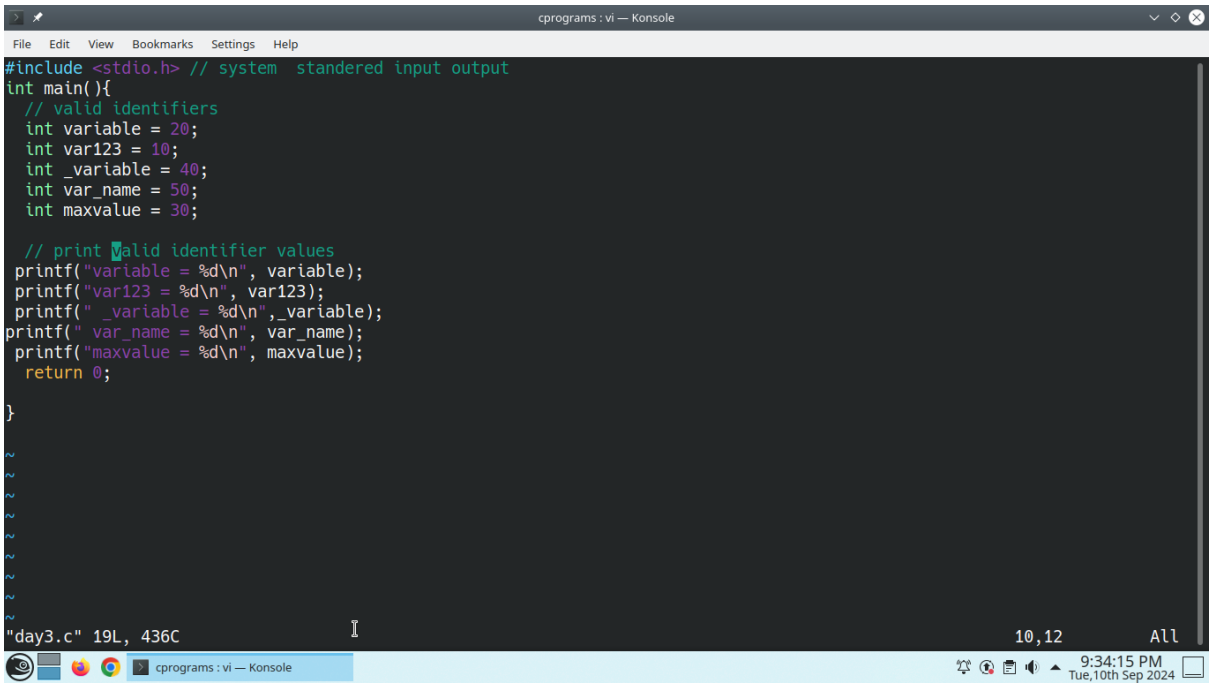
2 multi-line comment /*…….. */



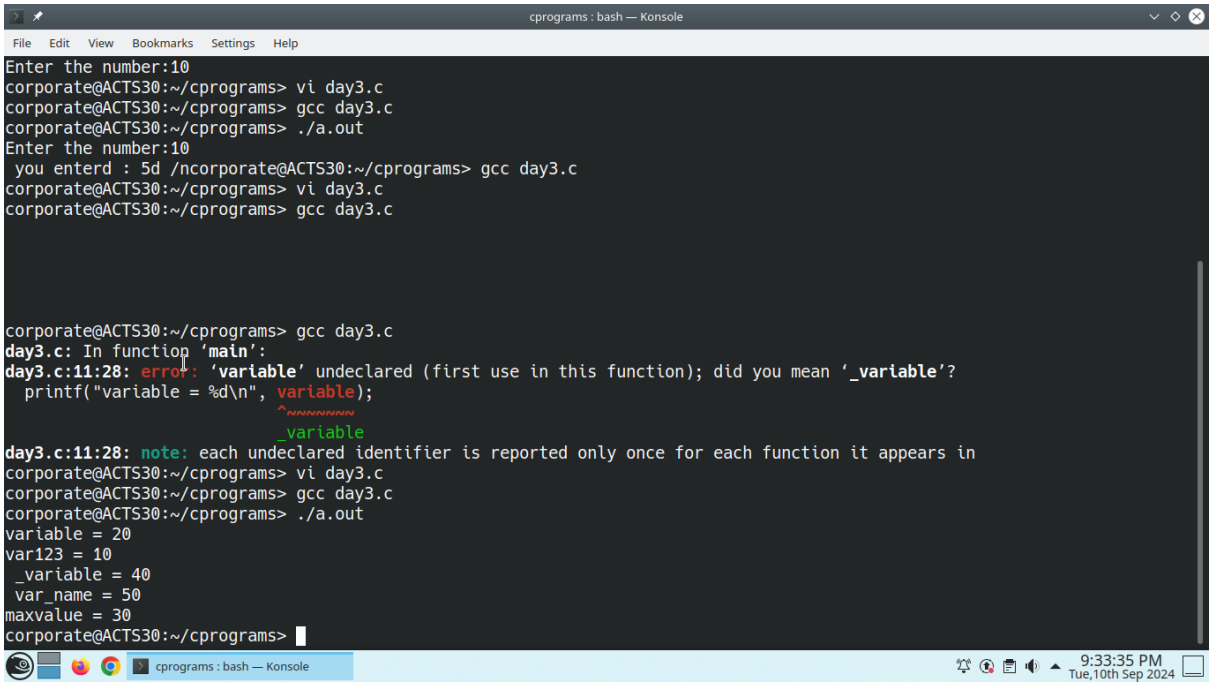
Output :-



Q2> Write a program to demonstrate valid or invalid Identifier?



Output :-

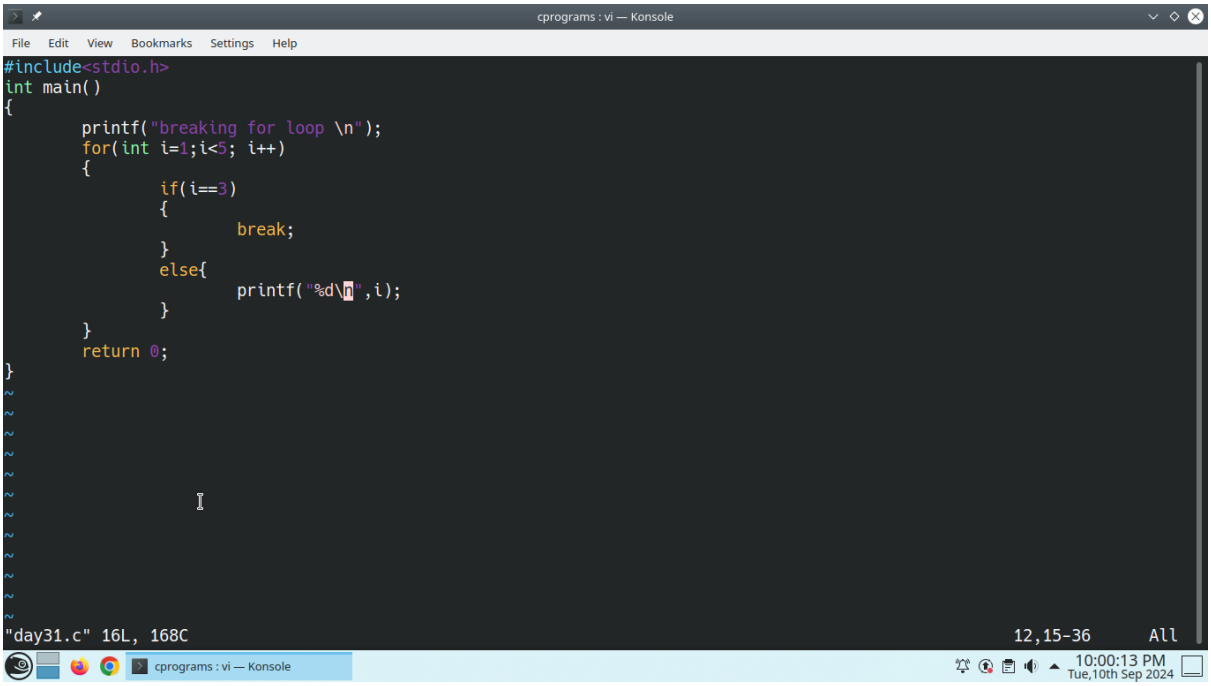


Invalid identifier:

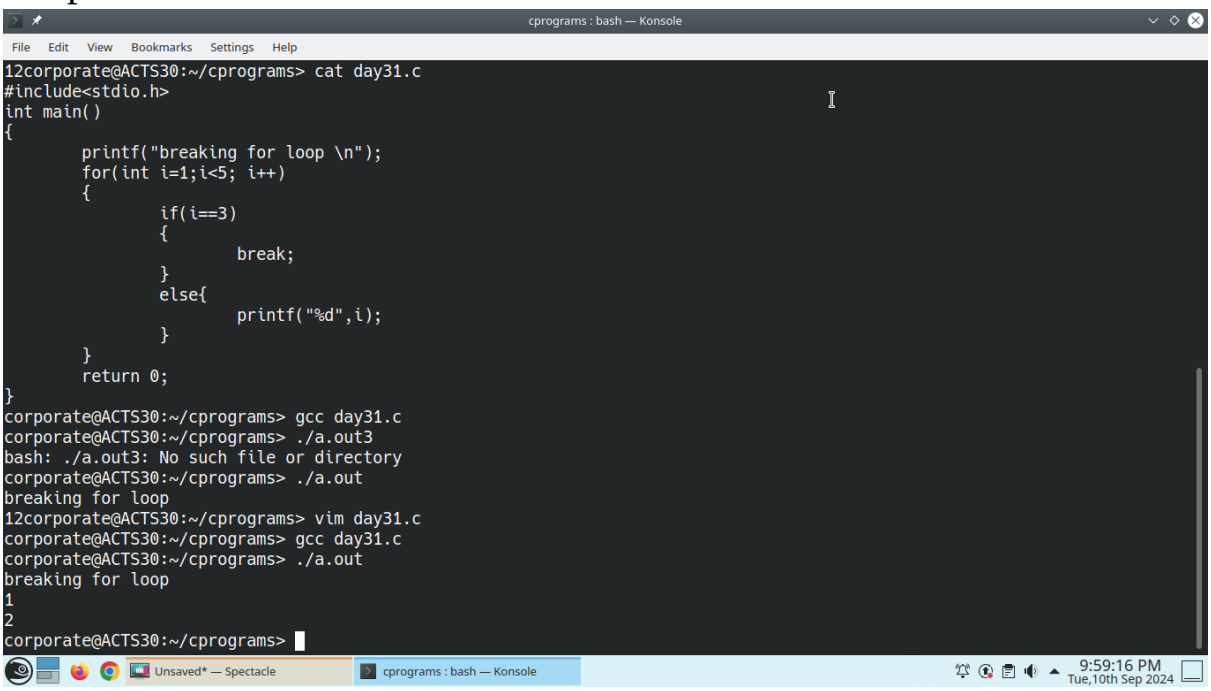
```
[Running] cd "c:\C_programs\" && gcc Q2.c -o Q2 && "c:\C_programs\"Q2
The value of _a is 10
The value of 0r is 6
The value of  is $rohit 10

[Done] exited with code=0 in 0.376 seconds
```

Q3> demonstrate 5 key words ?

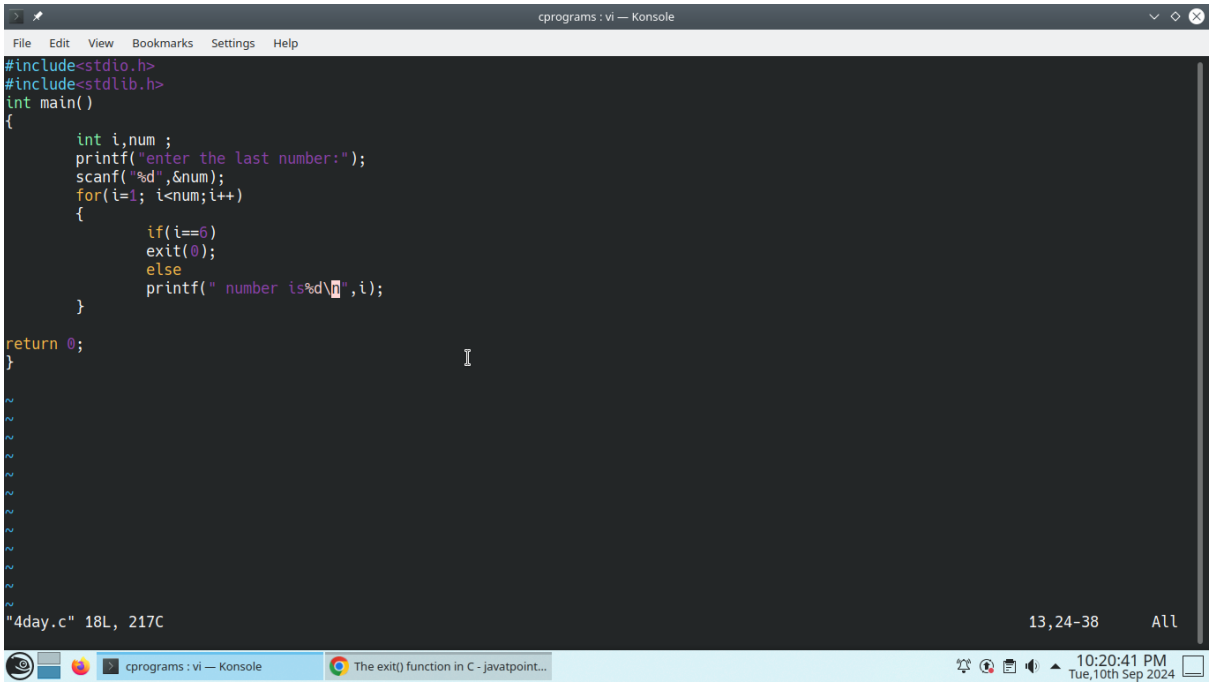
A) Break



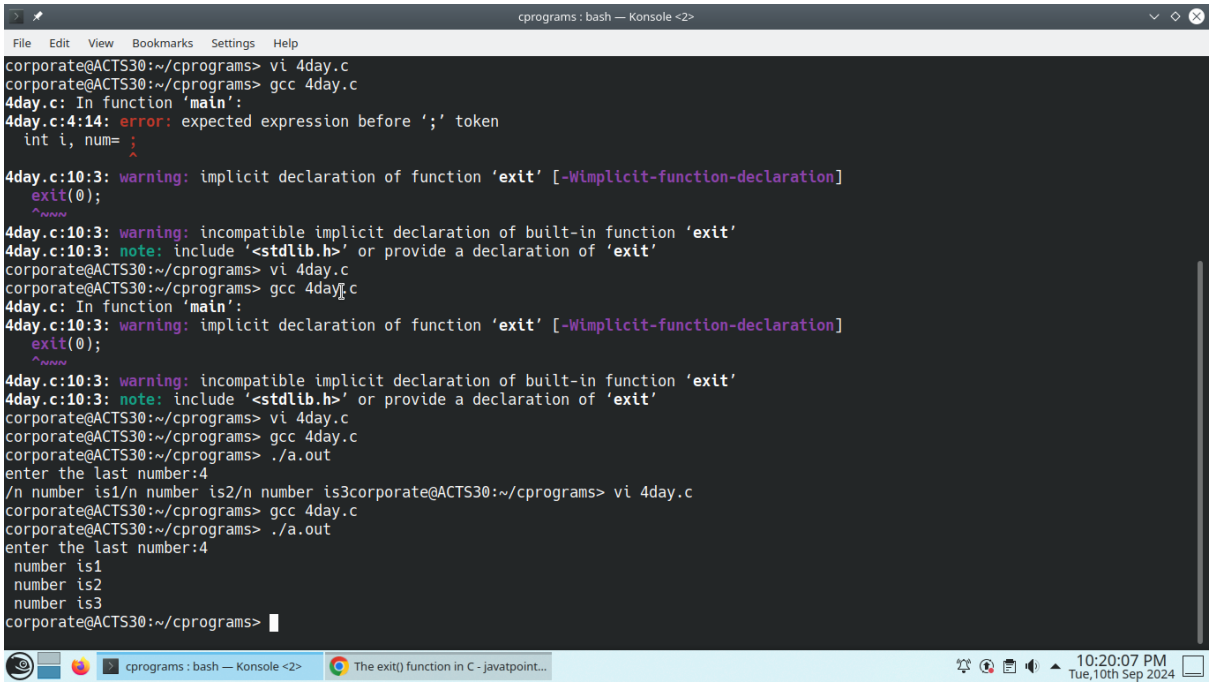
Output :-



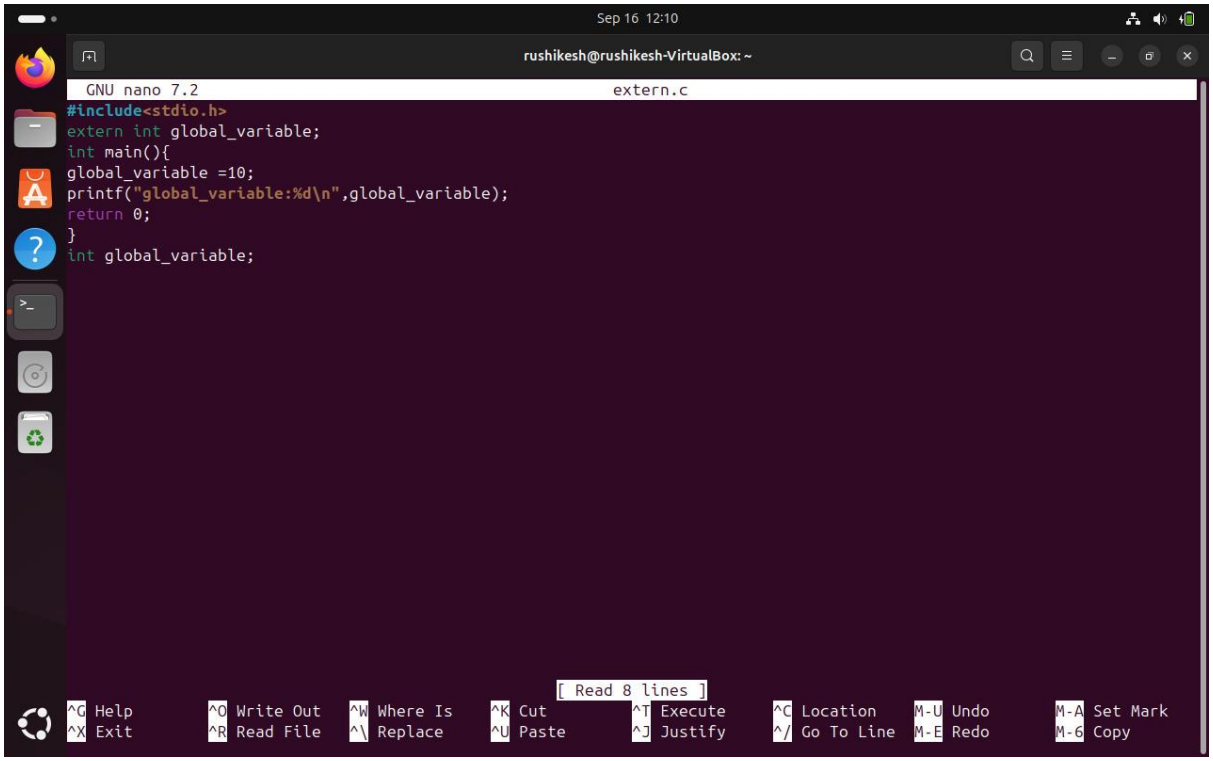
B> exit



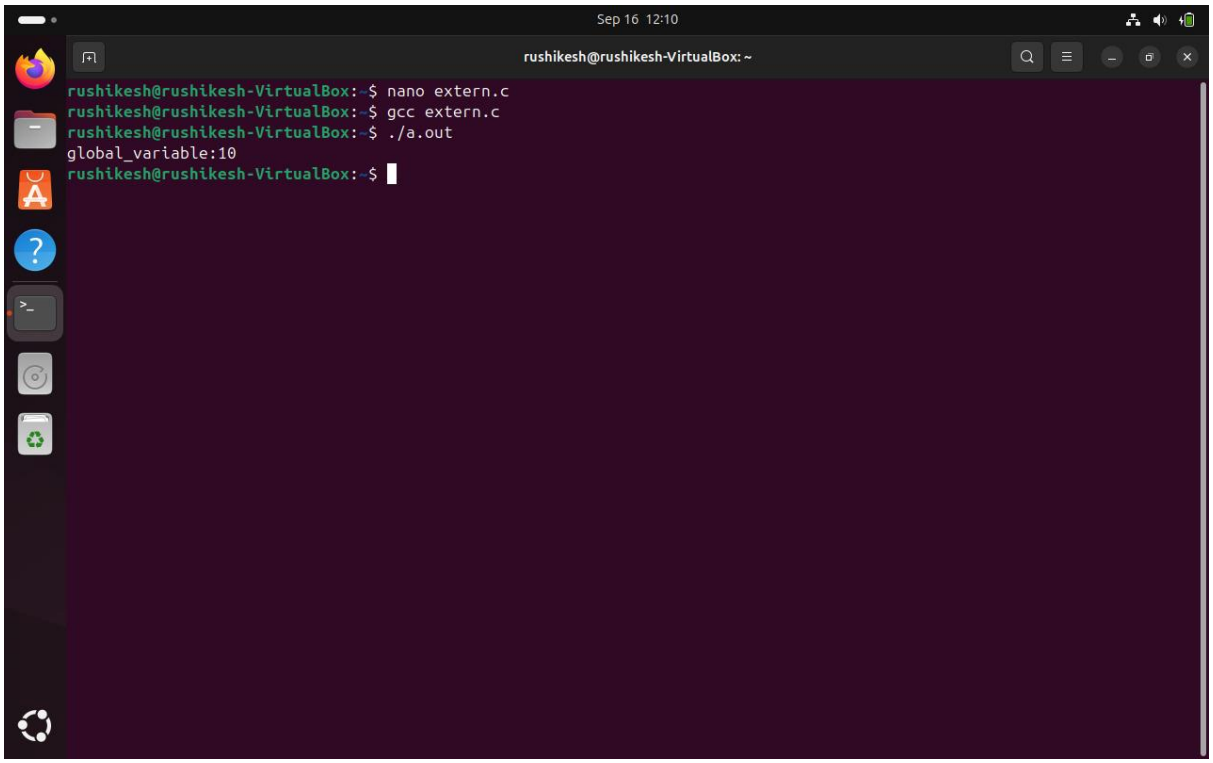
Output :-



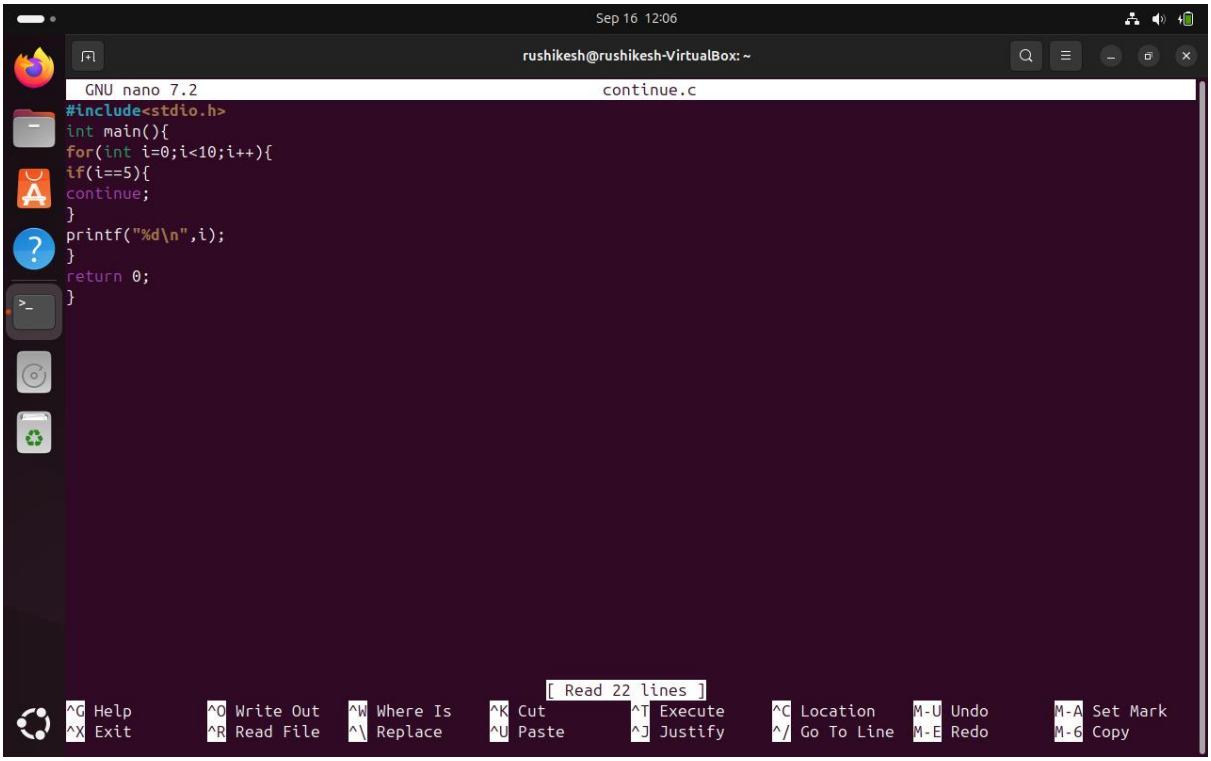
C> Extern



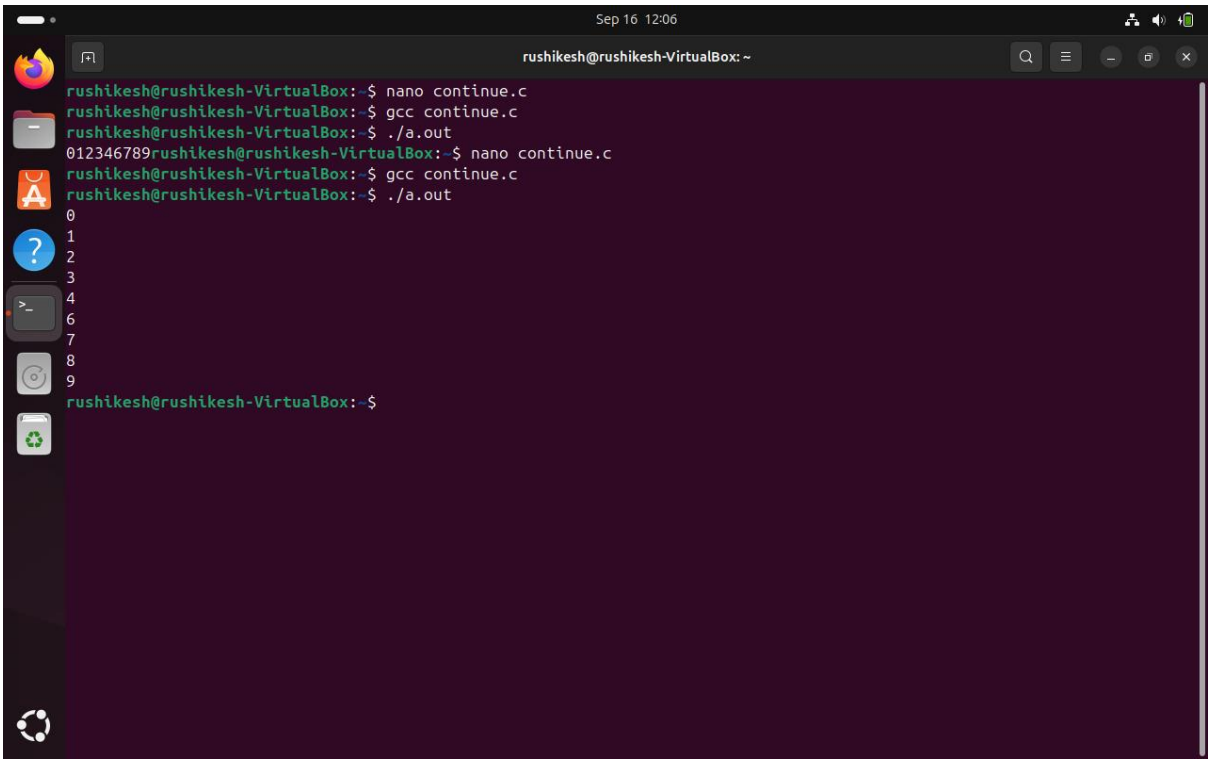
Output:-



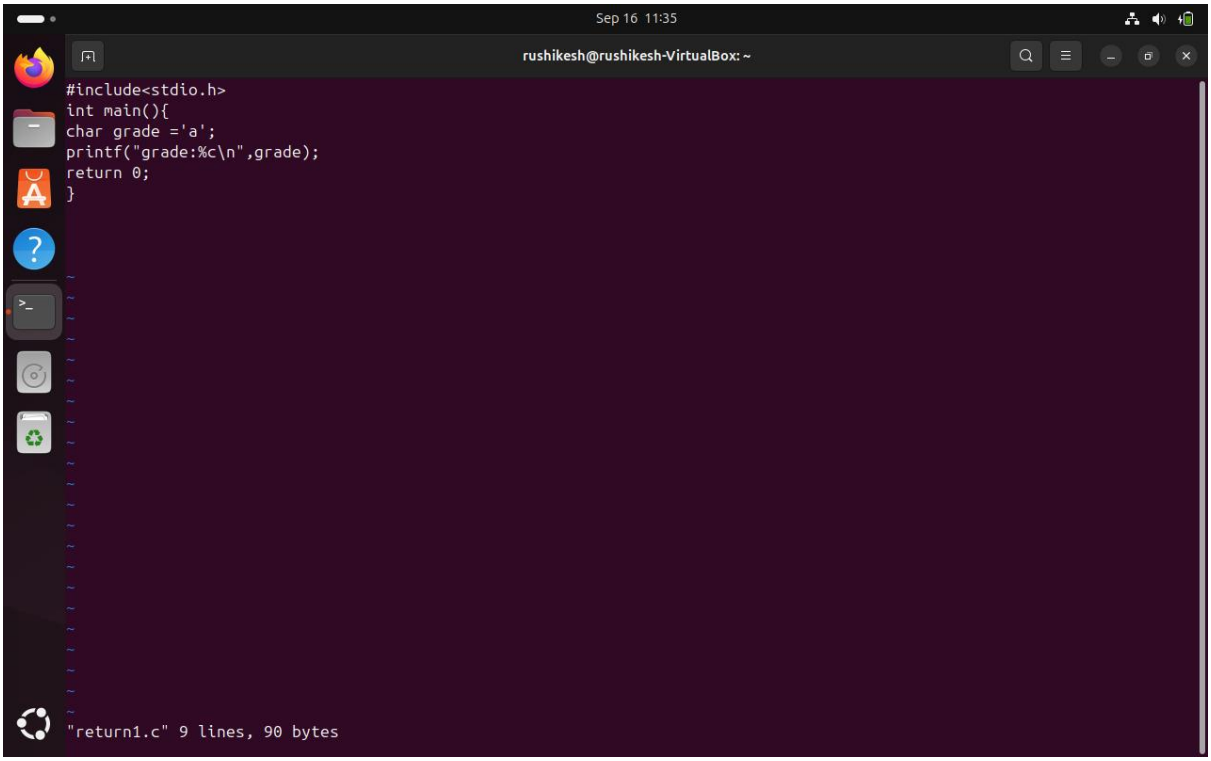
D> Continue



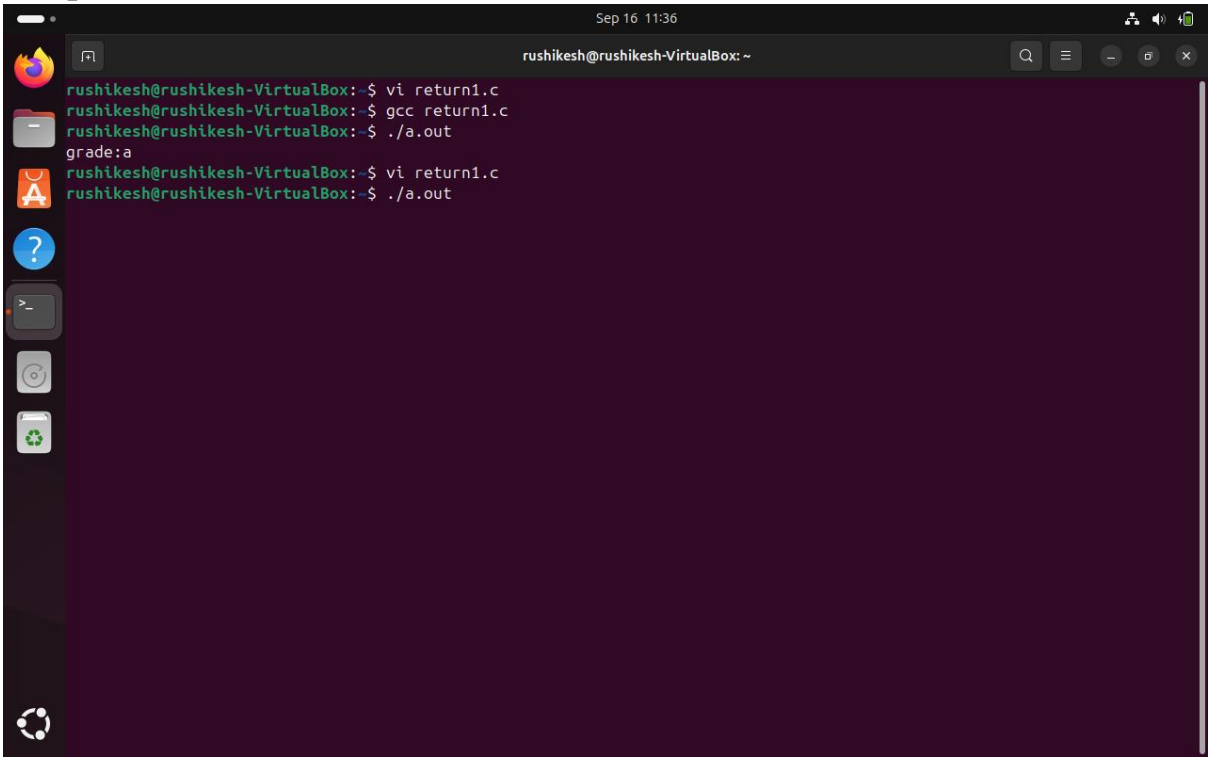
Output:



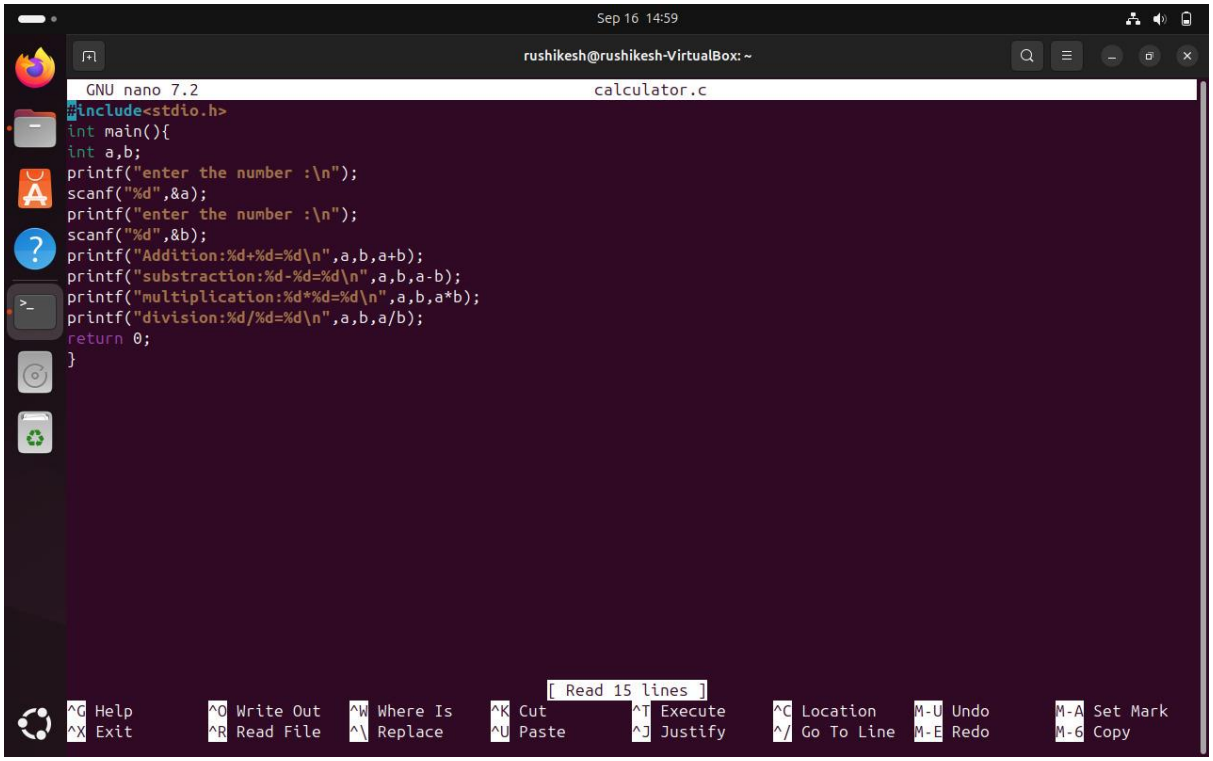
E> Return



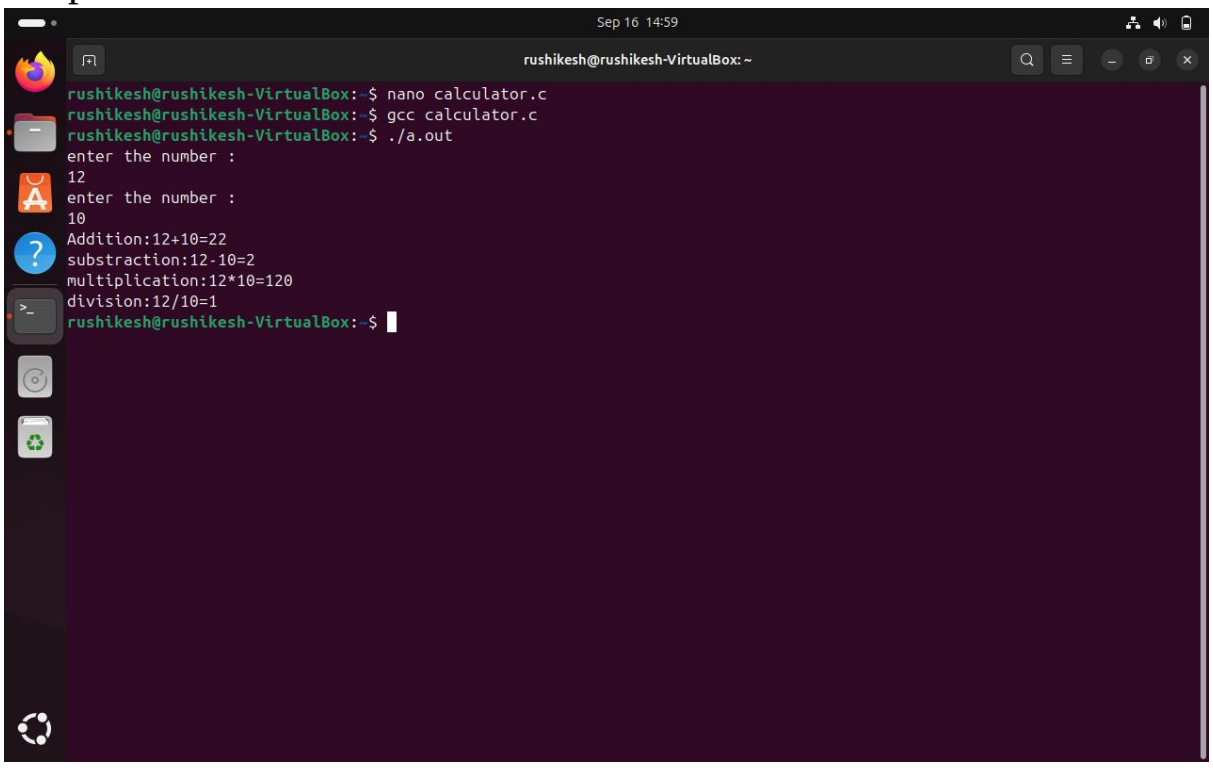
Output:-



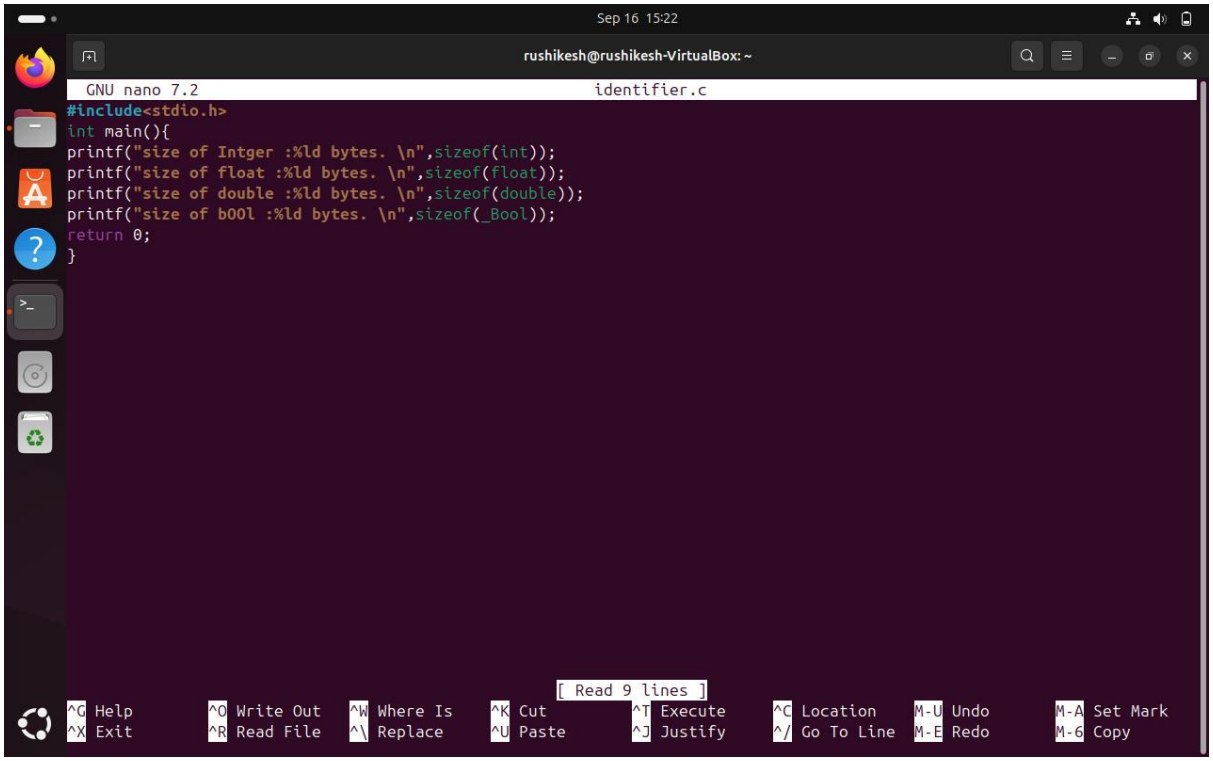
Q4. Write a C program to perform basic calculation.



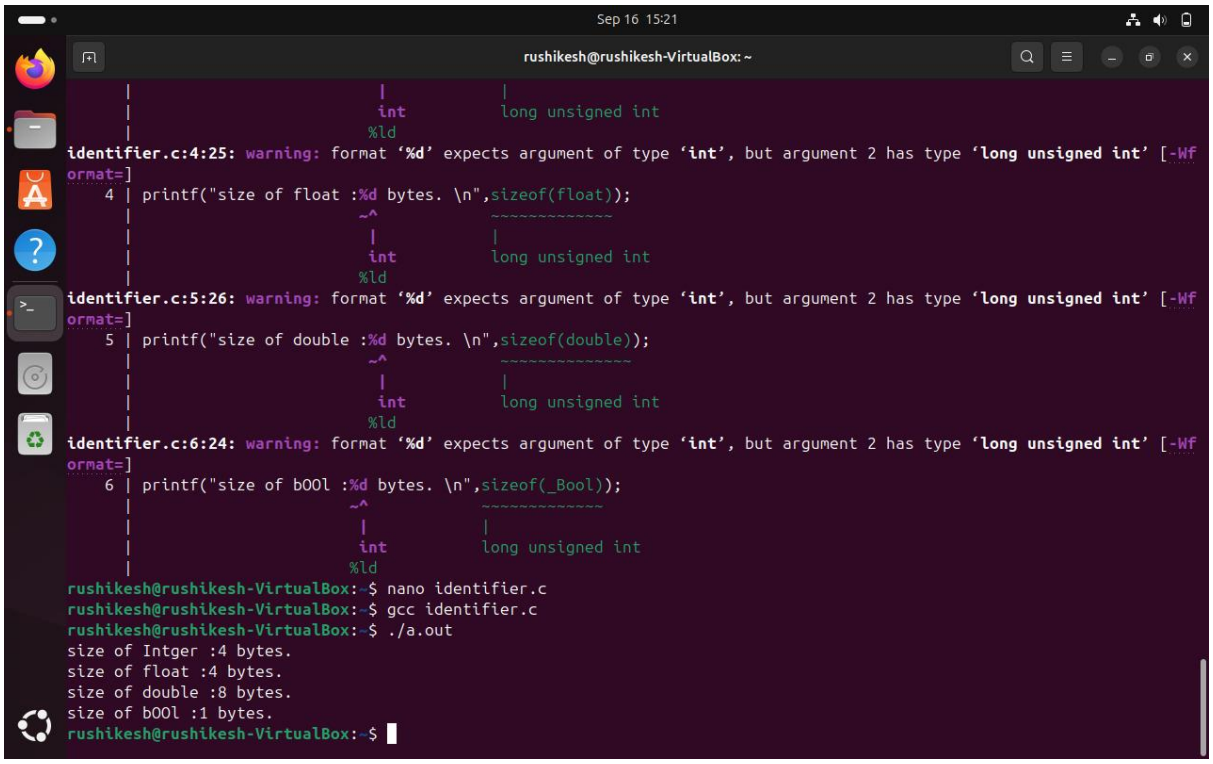
Output:-



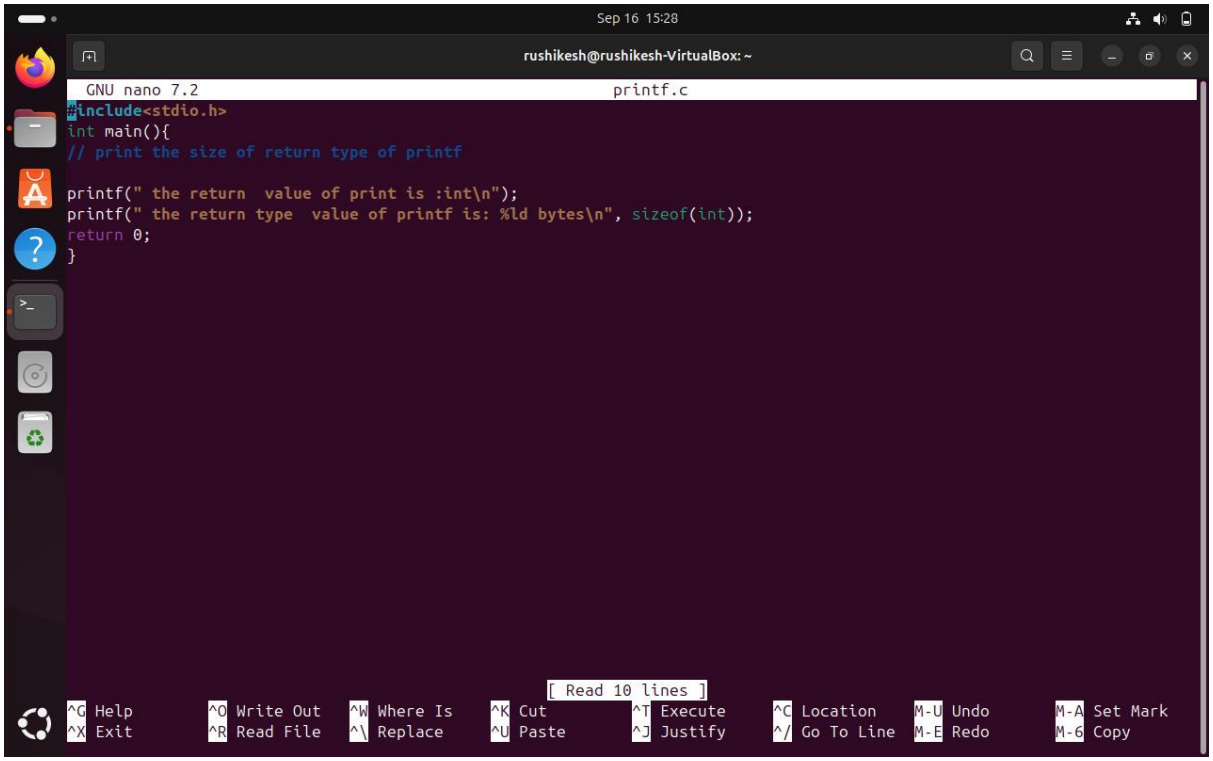
Q5. Write C program to find length of data type .



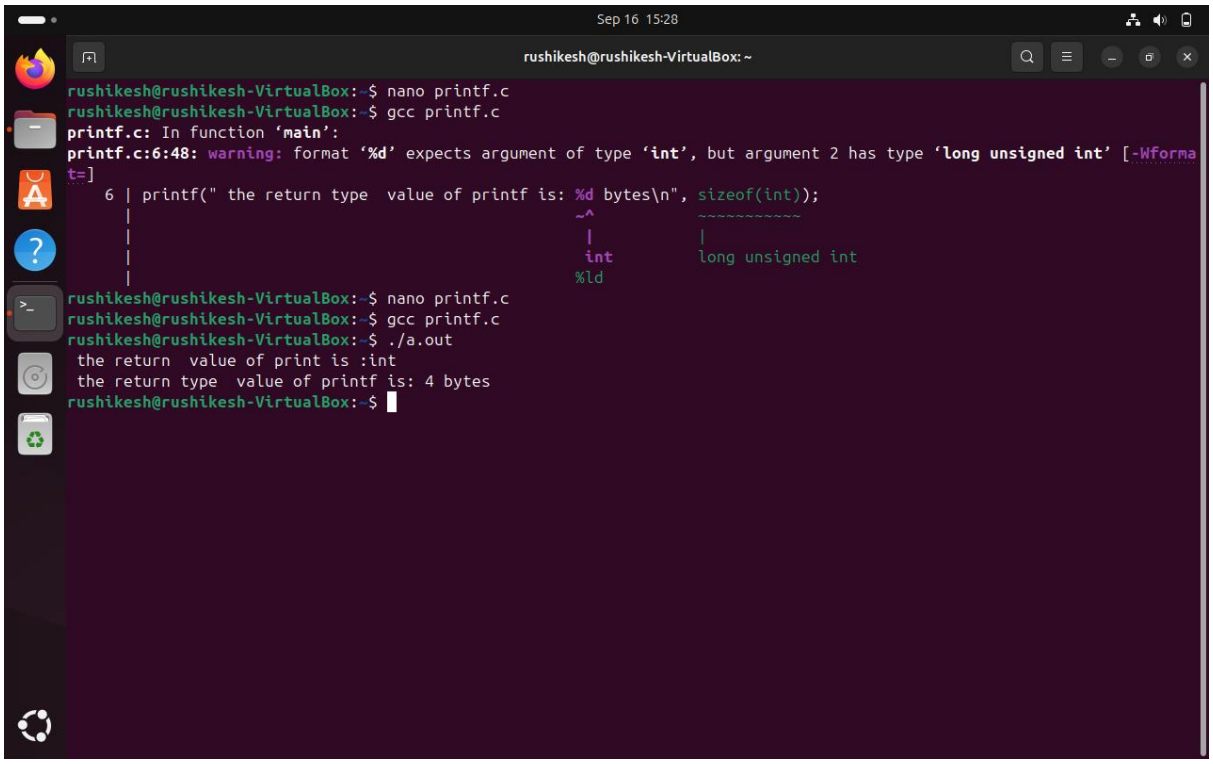
Output:-



Q6. Write a C program to check return type of printf() method.


Sep 16 15:28
rushikesh@rushikesh-VirtualBox: ~
GNU nano 7.2 printf.c
#include<stdio.h>
int main(){
// print the size of return type of printf
printf(" the return value of print is :int\n");
printf(" the return type value of printf is: %ld bytes\n", sizeof(int));
return 0;
}
[Read 10 lines]
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo M-6 Copy

Output:


Sep 16 15:28
rushikesh@rushikesh-VirtualBox: ~
rushikesh@rushikesh-VirtualBox:~$ nano printf.c
rushikesh@rushikesh-VirtualBox:~$ gcc printf.c
printf.c: In function 'main':
printf.c:6:48: warning: format '%d' expects argument of type 'int', but argument 2 has type 'long unsigned int' [-Wformat=]
6 | printf(" the return type value of printf is: %d bytes\n", sizeof(int));
| ~^ ~~~~~~~~~~
| | |
| int long unsigned int
| %ld
rushikesh@rushikesh-VirtualBox:~$ nano printf.c
rushikesh@rushikesh-VirtualBox:~$ gcc printf.c
rushikesh@rushikesh-VirtualBox:~$ ./a.out
the return value of print is :int
the return type value of printf is: 4 bytes
rushikesh@rushikesh-VirtualBox:~$

----------Day2----------

Q1) write C program to Demonstrate following operator:

a)! (Not) operator.

b) <<,>>(shift) operator.

c)== (Comparison) Operator.

d) ++,-- (Unary) Operator.

e)||,&&(logical operator).

cprogram001 : vi — Konsole

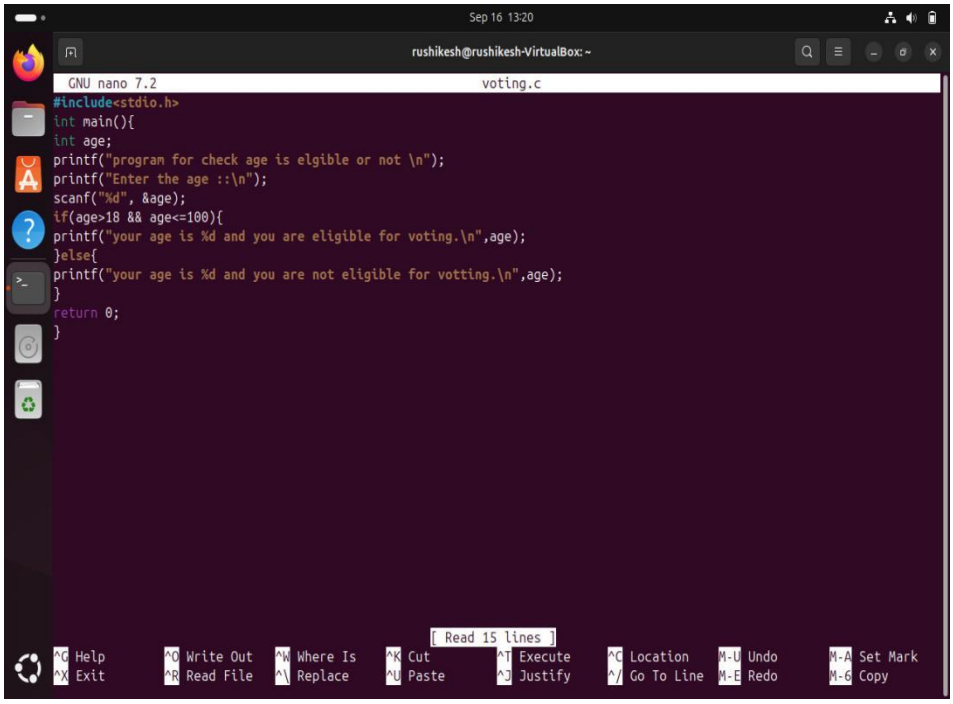
File Edit View Bookmarks Settings Help

```
//Q1 Write a program to demonstrate following operrator in c
/*
 *!operator
 *shift Operator
 *Comparision operator
 *Unary operator
 *logical operatore

 */
#include <stdio.h>

int main(){

        int b=6;
        //Using !operator
        printf("! operator:%d\n",!b);
        //Shift(<<) operator
        printf("<< operator:%d\n",b<<5);
        //Shift(>>) operator
        printf(">> operator:%d\n",b>>3);
        //Comparison Opertor(==) operator
        printf("Comparison Operator:%d\n",b==6);
        //Unary Operator(++) operator
        printf("unary operator:%d\n",++b);
        //Unary Operator(--) operator
        printf("Unary operator:%d\n",--b);
        //Logical Operaor(&&) operator
        printf("Logical and Operator:%d\n",b==6 && b>3);
        //Logical(||) operator
        printf("Logical or operator:%d\n",b==6 || b>9);
```

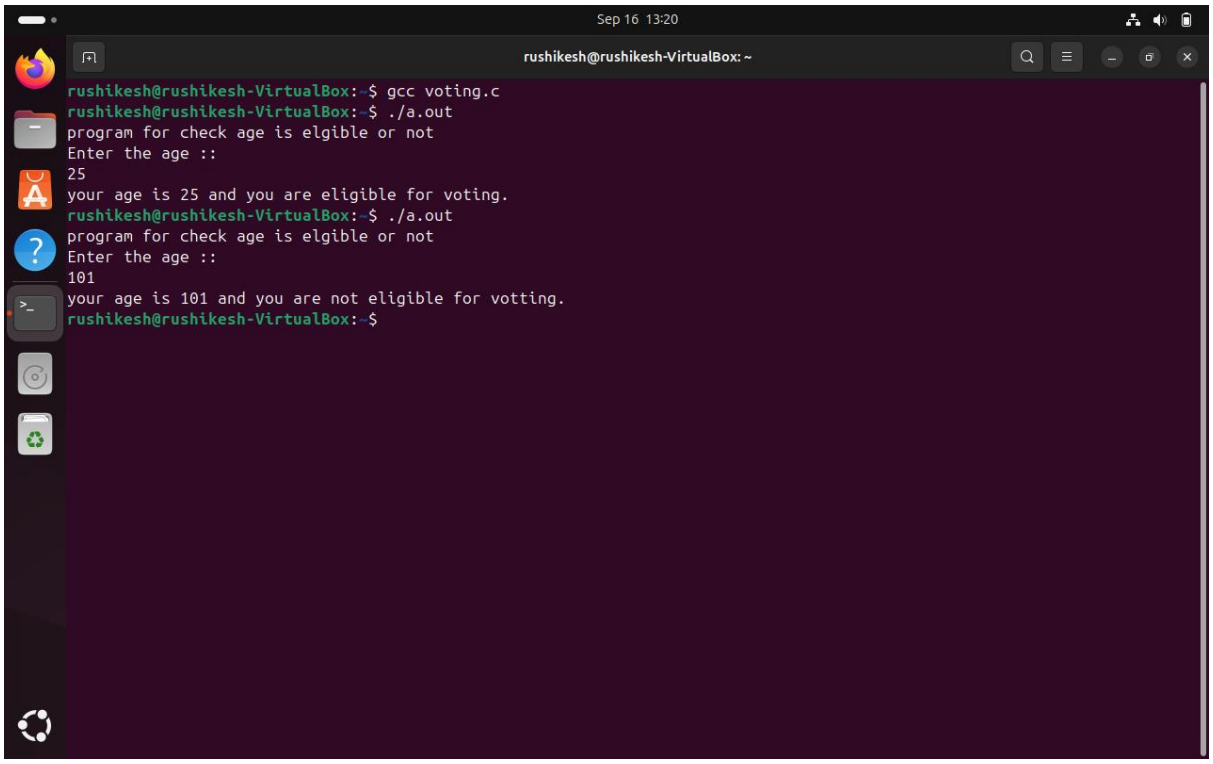
Output:-

```
corporate@ACTS31:~/cprogram001> vi Q1.c
corporate@ACTS31:~/cprogram001> gcc Q1.c
corporate@ACTS31:~/cprogram001> ./a.out
! operator:0
<< operator:192
>> operator:0
Comparison Operator:1
unary operator:7
Unary operator:6
Logical and Operator:1
Logical or operator:1
corporate@ACTS31:~/cprogram001>
```

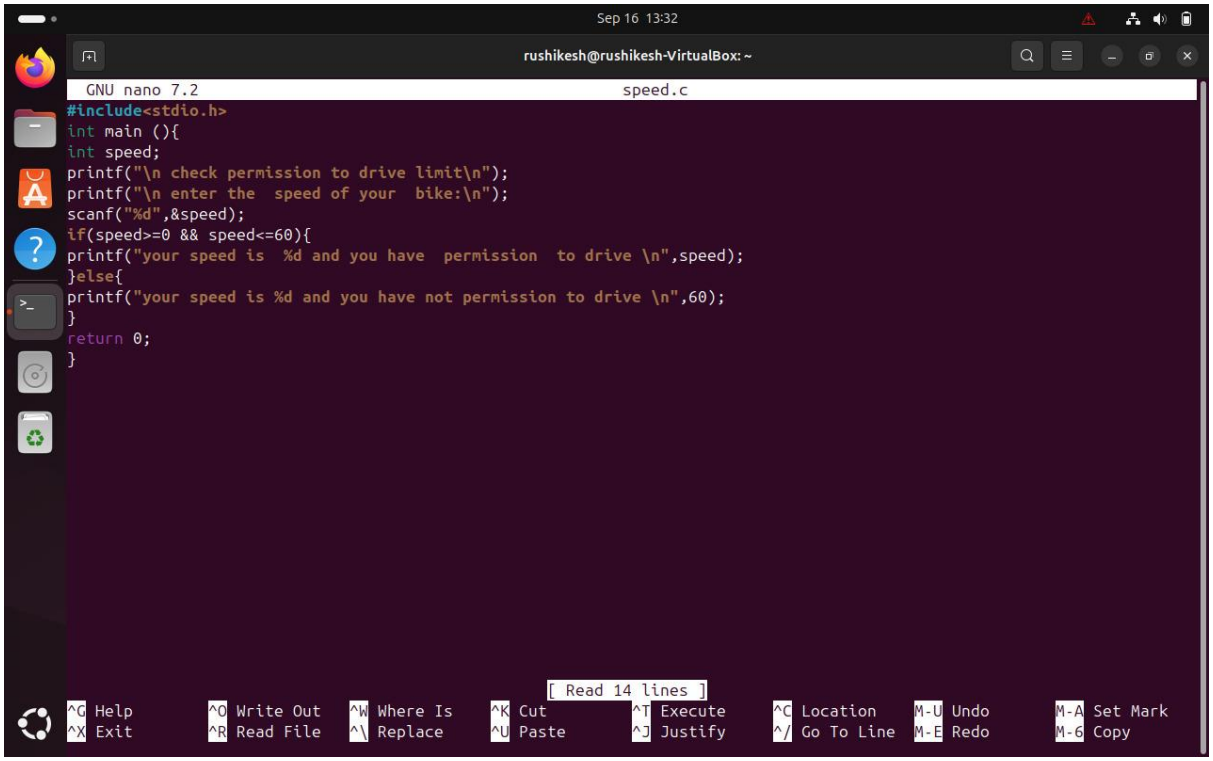
Q2. Write a c program to check a person is eligible for voting or not.



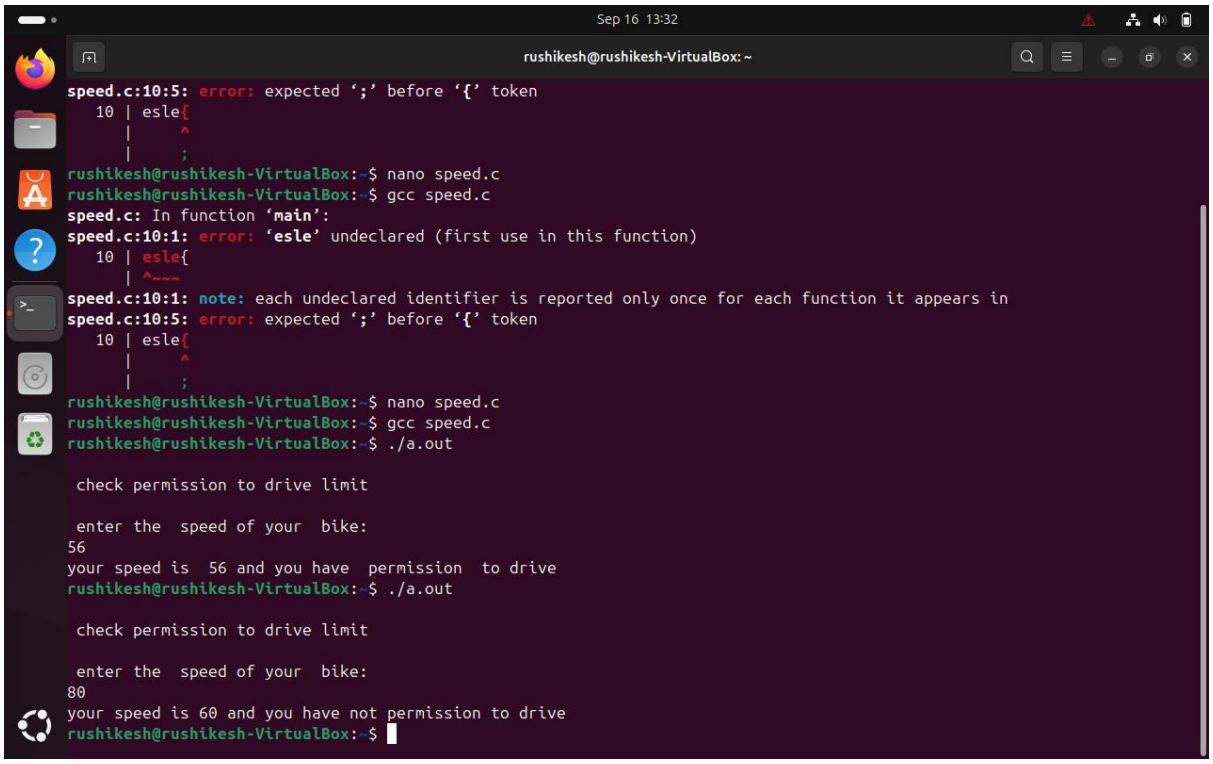
Output:-



Q3.Write a c program to check the speed is above 60 or not.



Output:-



4) Write a program to check the given is prime or not.

cprogram001 : vi — Konsole

File Edit View Bookmarks Settings Help

```c
//Q4.Write a program for to check the given number is prime or not
#include <stdio.h>
int main()
{
    int i, num, temp = 0;
    printf("Enter any number to Check for Prime: ");
    scanf("%d", &num);
    for (i = 2; i <= num / 2; i++)
    {
        if (num % i == 0)
        {
            temp++;
            break;
        }
    }
    if (temp == 0 && num != 1)
    {
        printf("%d is a Prime number\n", num);
    }
    else
    {
        printf("%d is not a Prime number\n", num);

    }
    return 0;
}

~
```

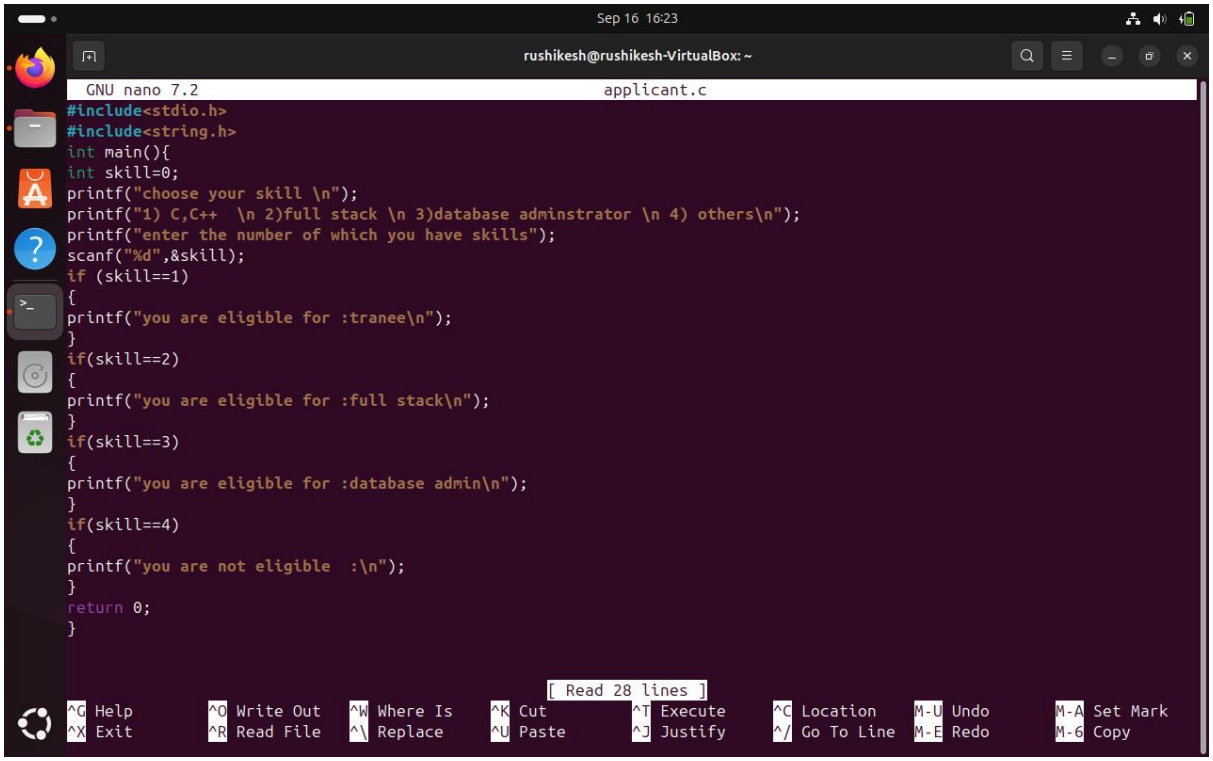
Output:-

cprogram001 : bash — Konsole

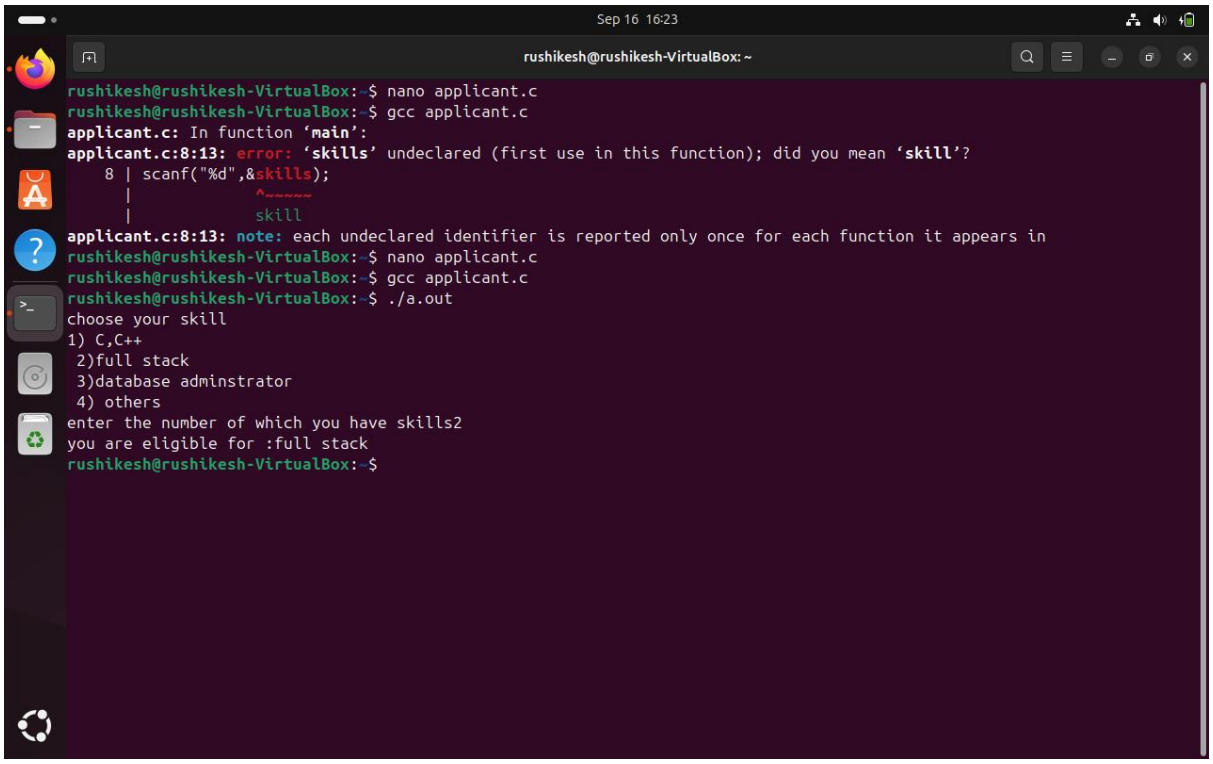
File Edit View Bookmarks Settings Help

```
corporate@ACTS31:~/cprogram001> vi Q4.c
corporate@ACTS31:~/cprogram001> gcc Q4.c
corporate@ACTS31:~/cprogram001> ./a.out
Enter any number to Check for Prime: 13
13 is a Prime number
corporate@ACTS31:~/cprogram001> ./a.out
Enter any number to Check for Prime: 8
8 is not a Prime number
corporate@ACTS31:~/cprogram001>
```

Q5> WAP to check applicant is eligible for a) trainee b) full stack c)database admin d) others.



Output:



Q6)Write a program to print odd number between 0 to 10.

cprogram001 : vi — Konsole

File Edit View Bookmarks Settings Help

```
//Q7.Write a program to print odd number between to 1 to 10:
#include <stdio.h>
int main(){
        printf("Print odd numbers between 1 to 10:\n");
        for(int i=1; i<=10;i++){
                if(i%2==1){

                        printf("%d\n",i);
        }
        }

        return 0;
}
```

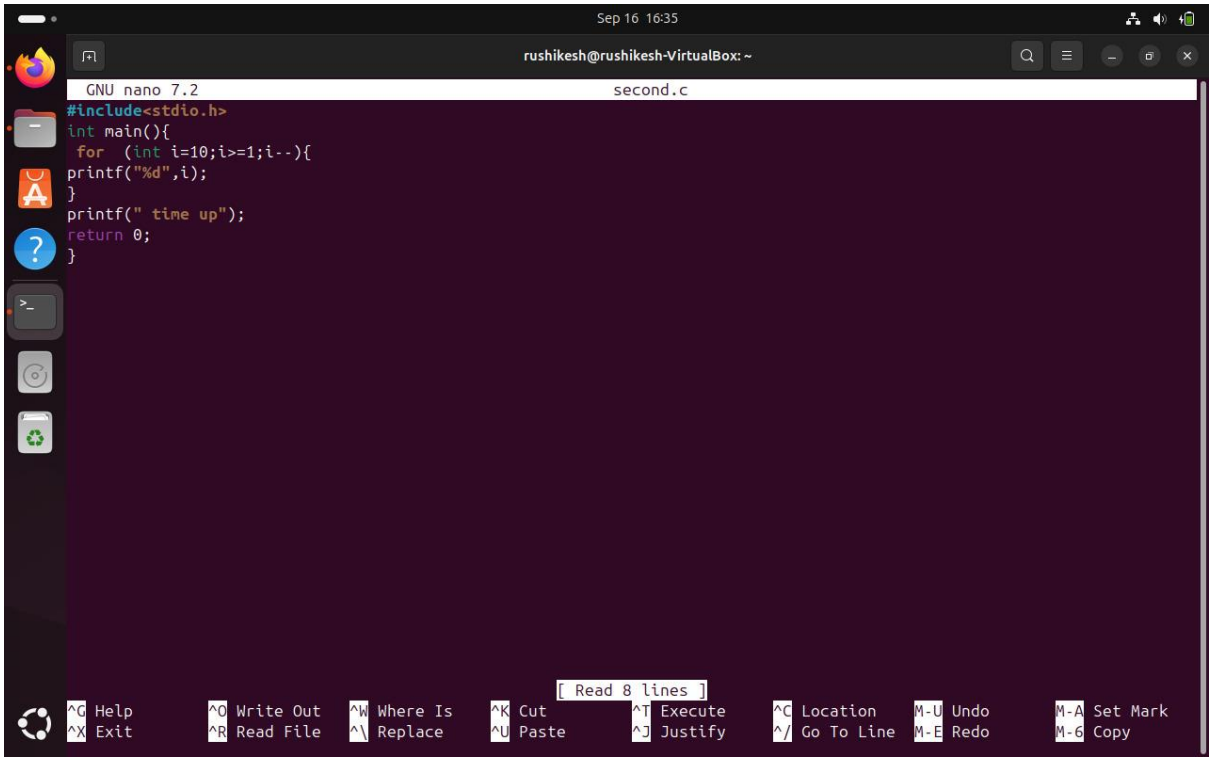
Output:-

cprogram001 : bash — Konsole

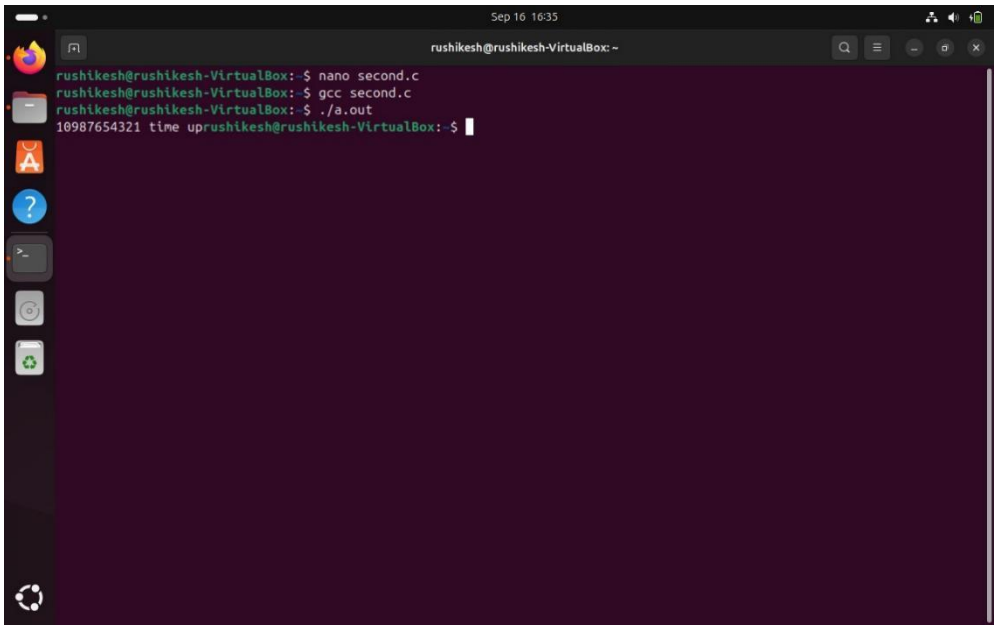
File Edit View Bookmarks Settings Help

```
corporate@ACTS31:~> cd cprogram001
corporate@ACTS31:~/cprogram001> vi Q7.c
corporate@ACTS31:~/cprogram001> gcc Q7.c
Q7.c: In function 'main':
Q7.c:5:18: error: expected expression before '=' token
  for(int i=1; i<==10;i++){
                  ^
corporate@ACTS31:~/cprogram001> vi Q7.c
corporate@ACTS31:~/cprogram001> gcc Q7.c
corporate@ACTS31:~/cprogram001> ./a.out
Print odd numbers between 1 to 10:
1
3
5
7
9
corporate@ACTS31:~/cprogram001> vi Q7.c
corporate@ACTS31:~/cprogram001> gcc Q7.c
corporate@ACTS31:~/cprogram001> ./a.out
Print odd numbers between 1 to 10:
1
3
5
7
9
corporate@ACTS31:~/cprogram001>
```

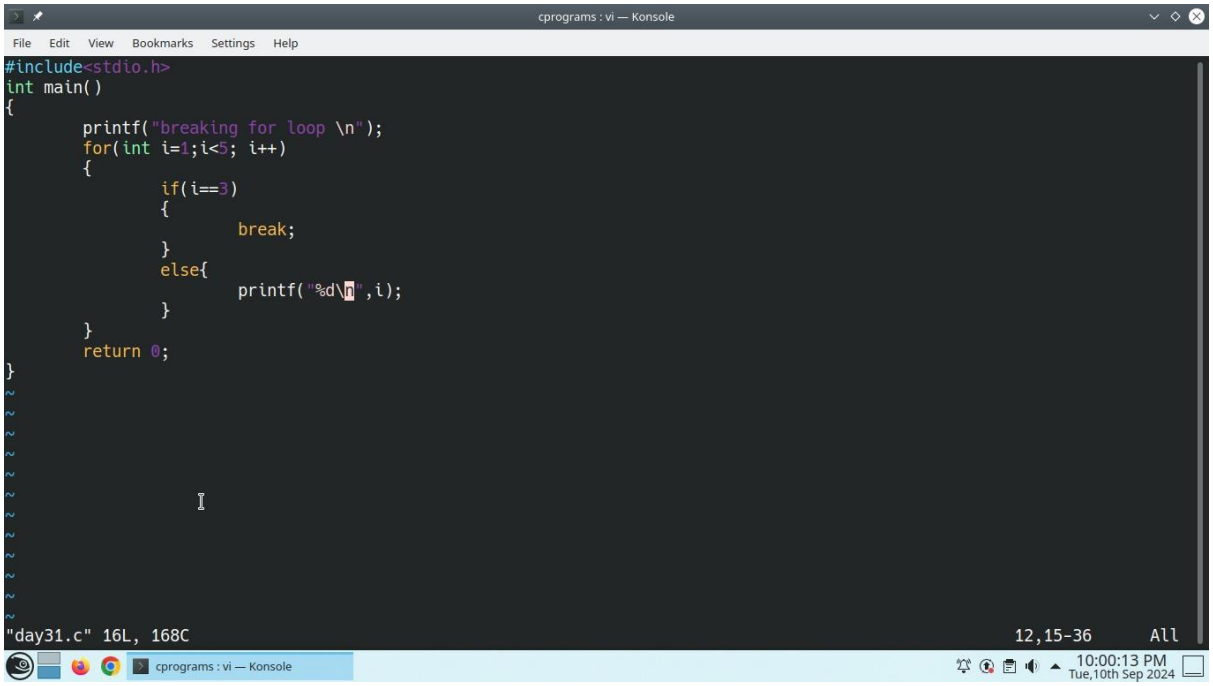
Q7) WAP to display last 10 seconds and the message is time up.



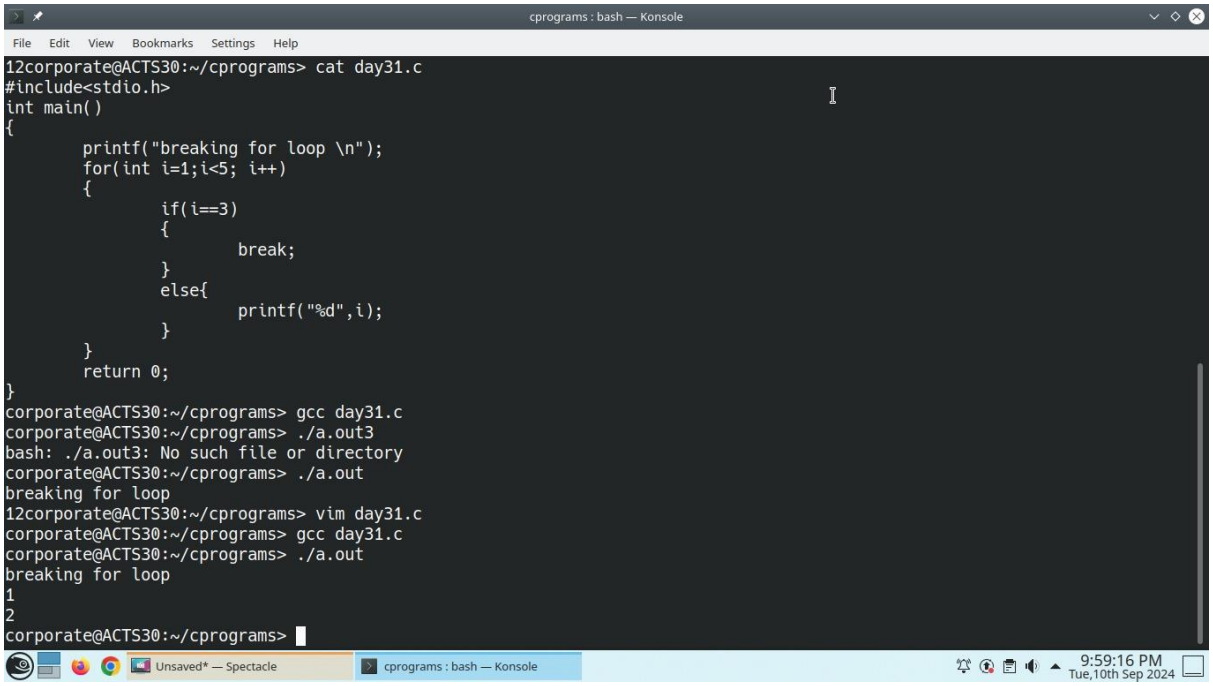
Output:-



Q8) WAP use break for loop



Output:-

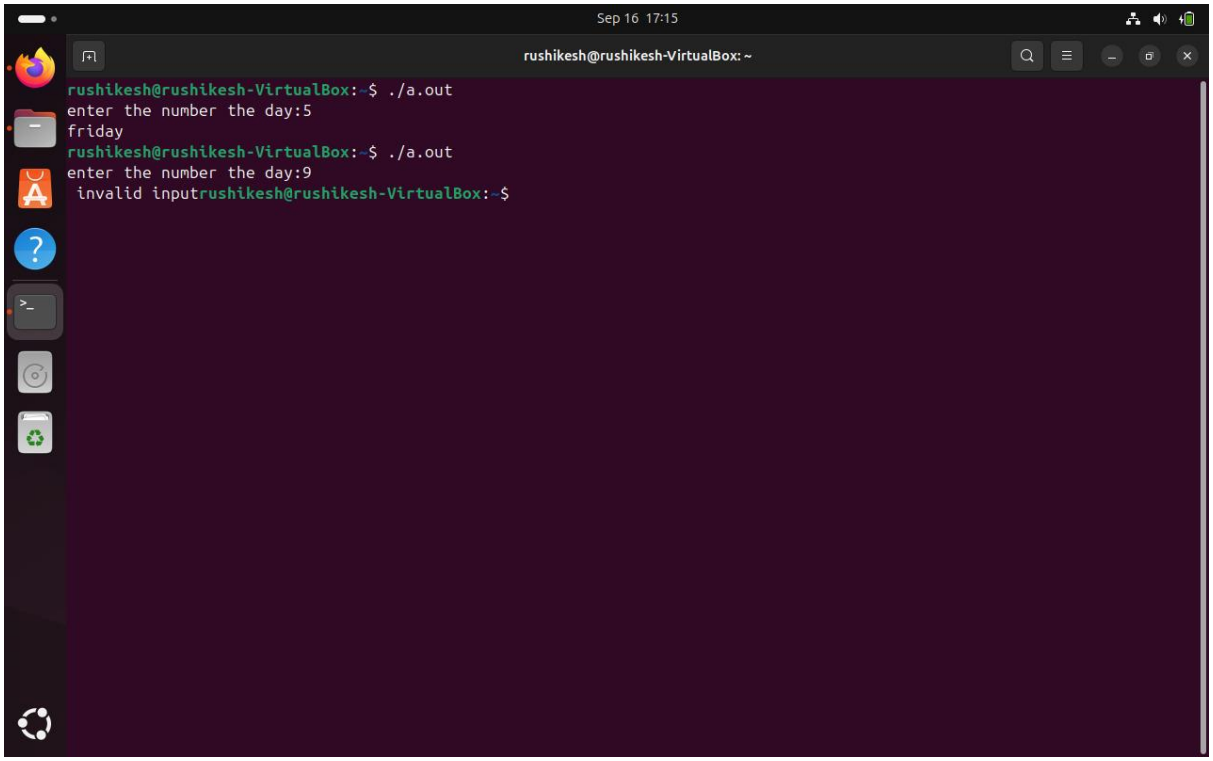


Q9) Write a program to print the day of the week using Switch case.


Sep 16 17:15
rushikesh@rushikesh-VirtualBox: ~
GNU nano 7.2 week.c
int main(){
int n;
printf("enter the number the day:");
scanf("%d",&n);
switch (n){
case 1:
printf("monday\n");
break;
case 2:
printf("tuesday\n");
break;
case 3:
printf("wednesday\n");
break;
case 4:
printf("thursday\n");
break;
case 5:
printf("friday\n");
break;
case 6:
printf("saturday\n");
break;
case 7:
printf("sunday\n");
default:
printf(" invalid input\n");
}
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo M-6 Copy

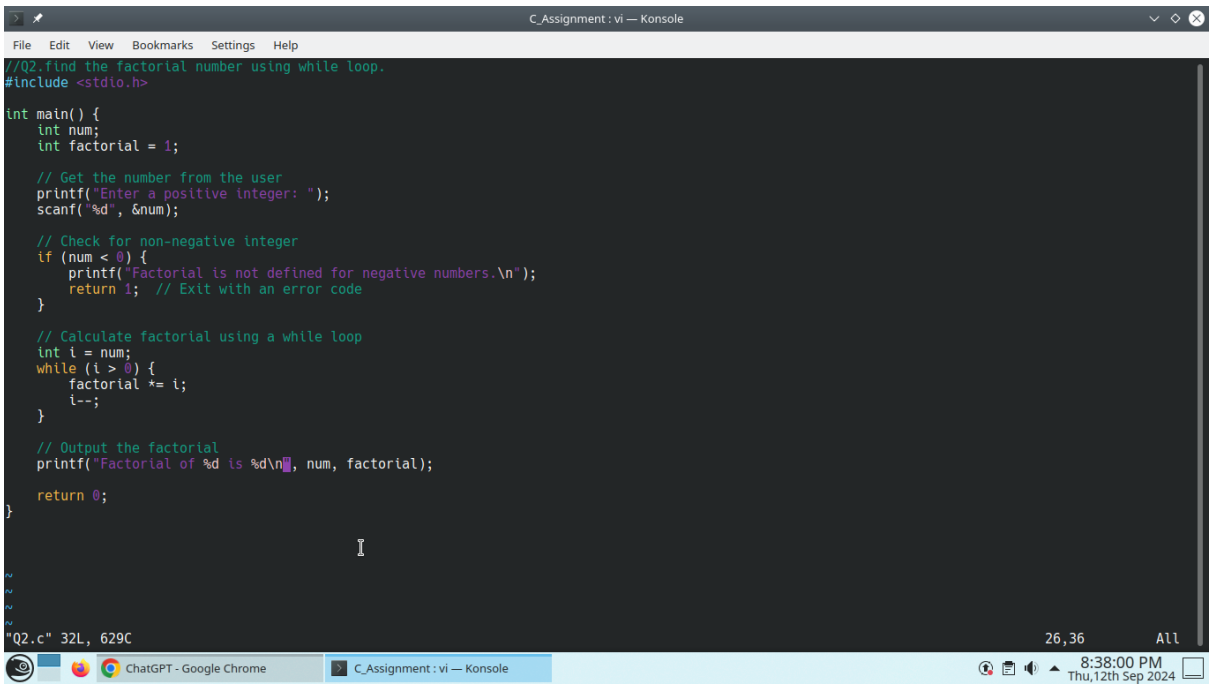

Sep 16 17:16
rushikesh@rushikesh-VirtualBox: ~
GNU nano 7.2 week.c
scanf("%d",&n);
switch (n){
case 1:
printf("monday\n");
break;
case 2:
printf("tuesday\n");
break;
case 3:
printf("wednesday\n");
break;
case 4:
printf("thursday\n");
break;
case 5:
printf("friday\n");
break;
case 6:
printf("saturday\n");
break;
case 7:
printf("sunday\n");
default:
printf(" invalid input\n");
}
return 0;
}
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo M-6 Copy

Output:-



----------Day3----------

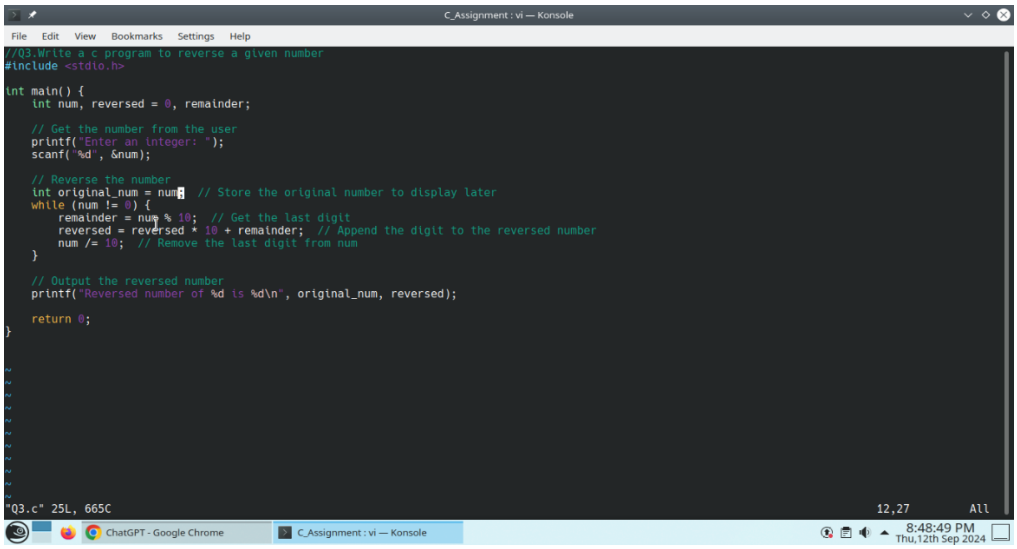
Q1)Find the factorial of a given number using while loop.



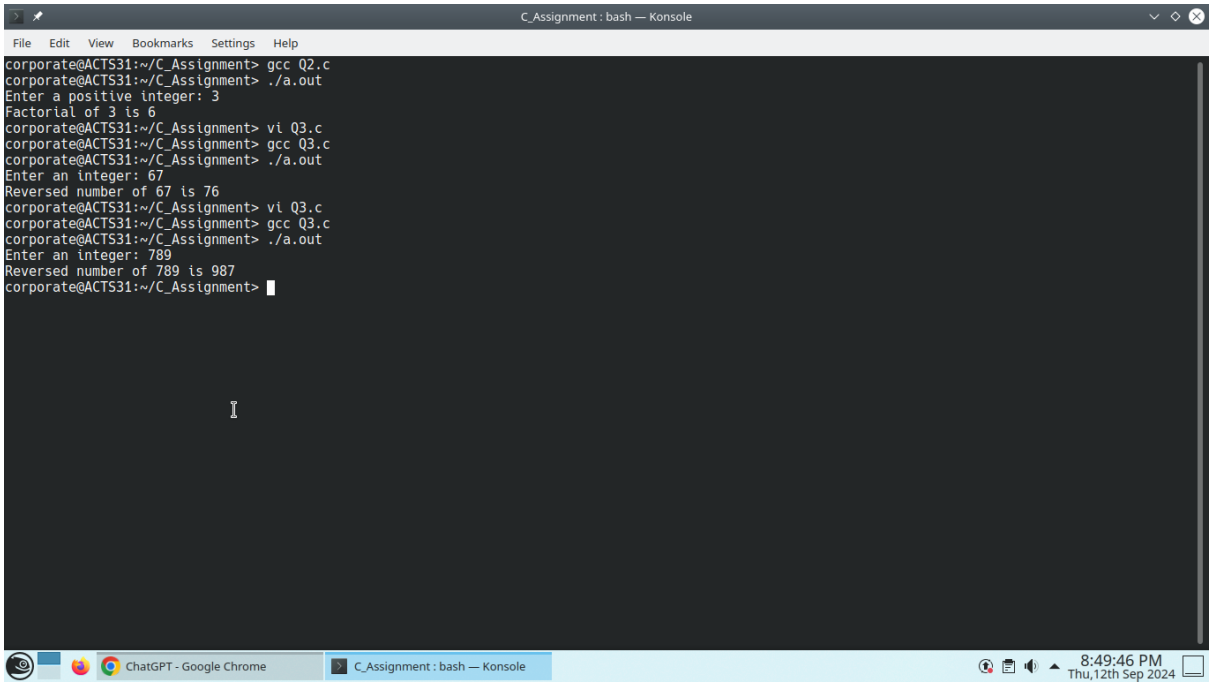
Output:-

```
C_Assignment : bash — Konsole
File  Edit  View  Bookmarks  Settings  Help
corporate@ACTS31:~/C_Assignment> gcc Q2.c
corporate@ACTS31:~/C_Assignment> ./a.out
Enter a positive integer: 3
Factorial of 3 is 6
corporate@ACTS31:~/C_Assignment>
```

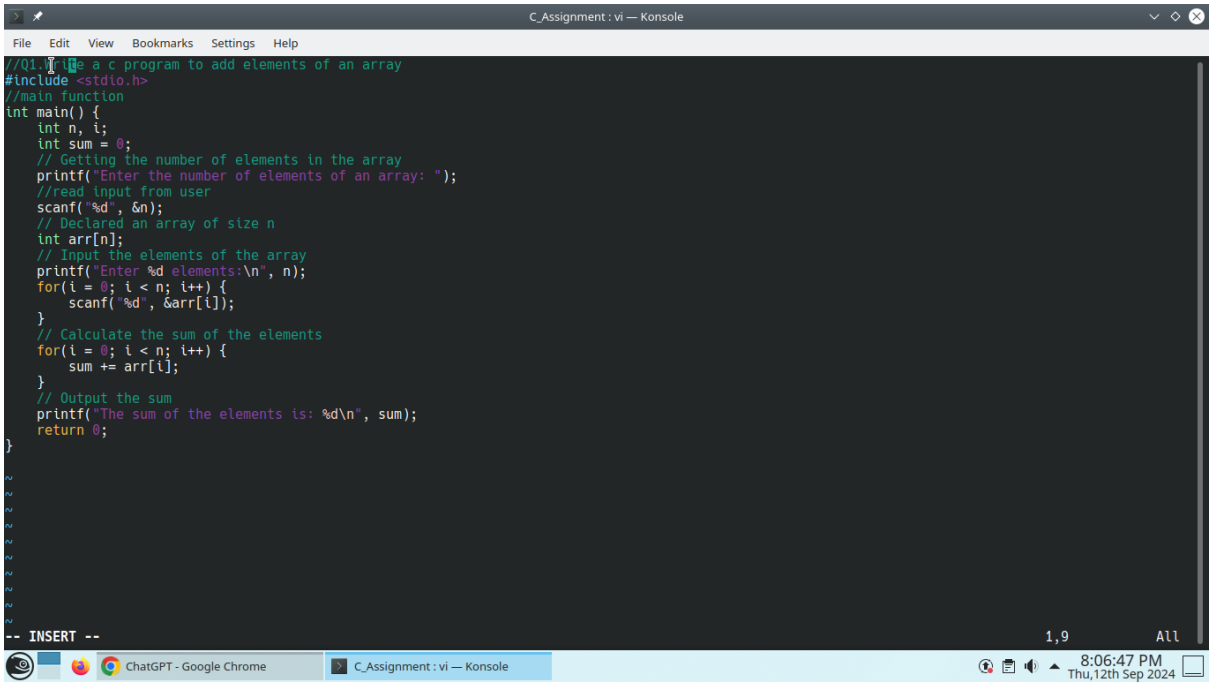
Q.2) Write a c program to reverse a given number using while loop.



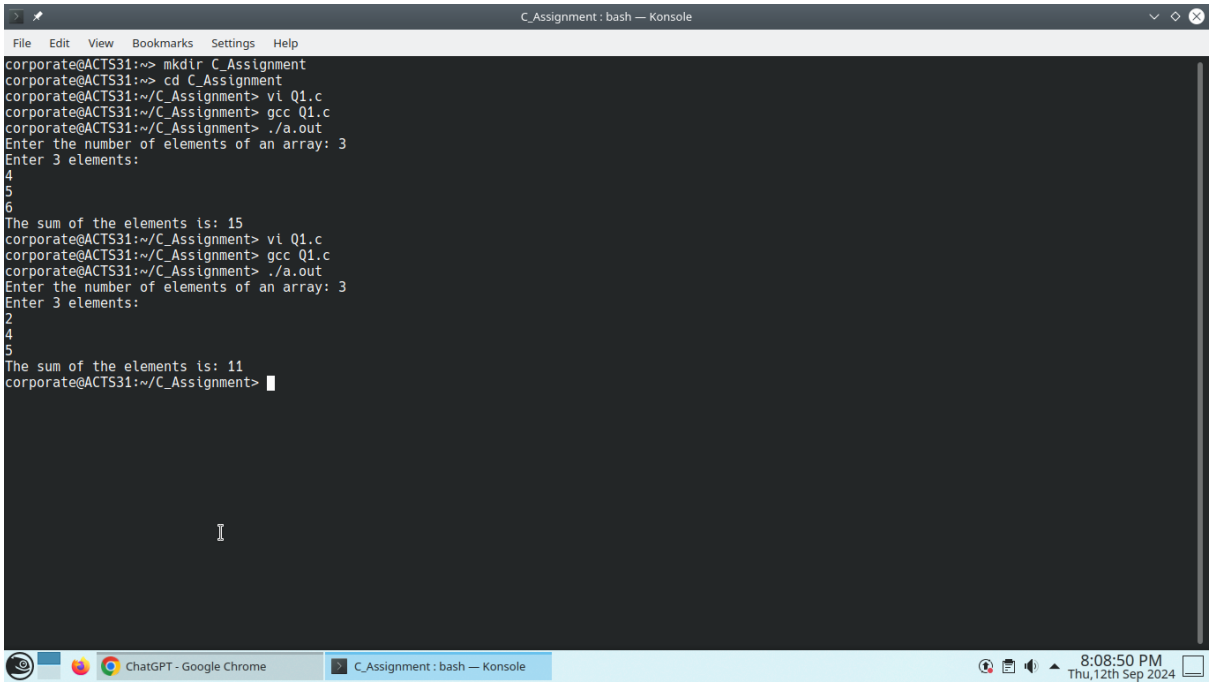
Output:-



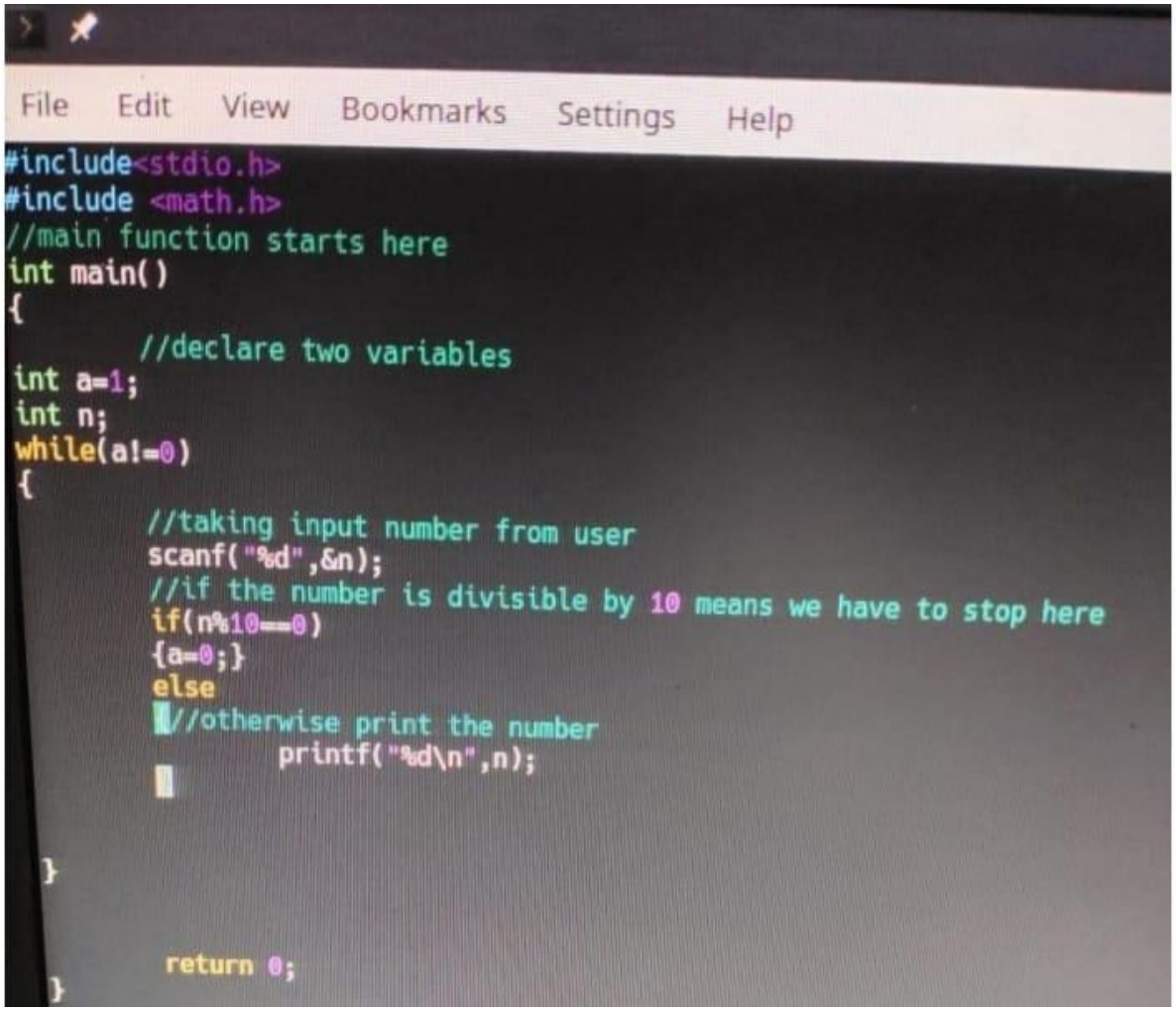
Q3.Write a program to add elements of an array.



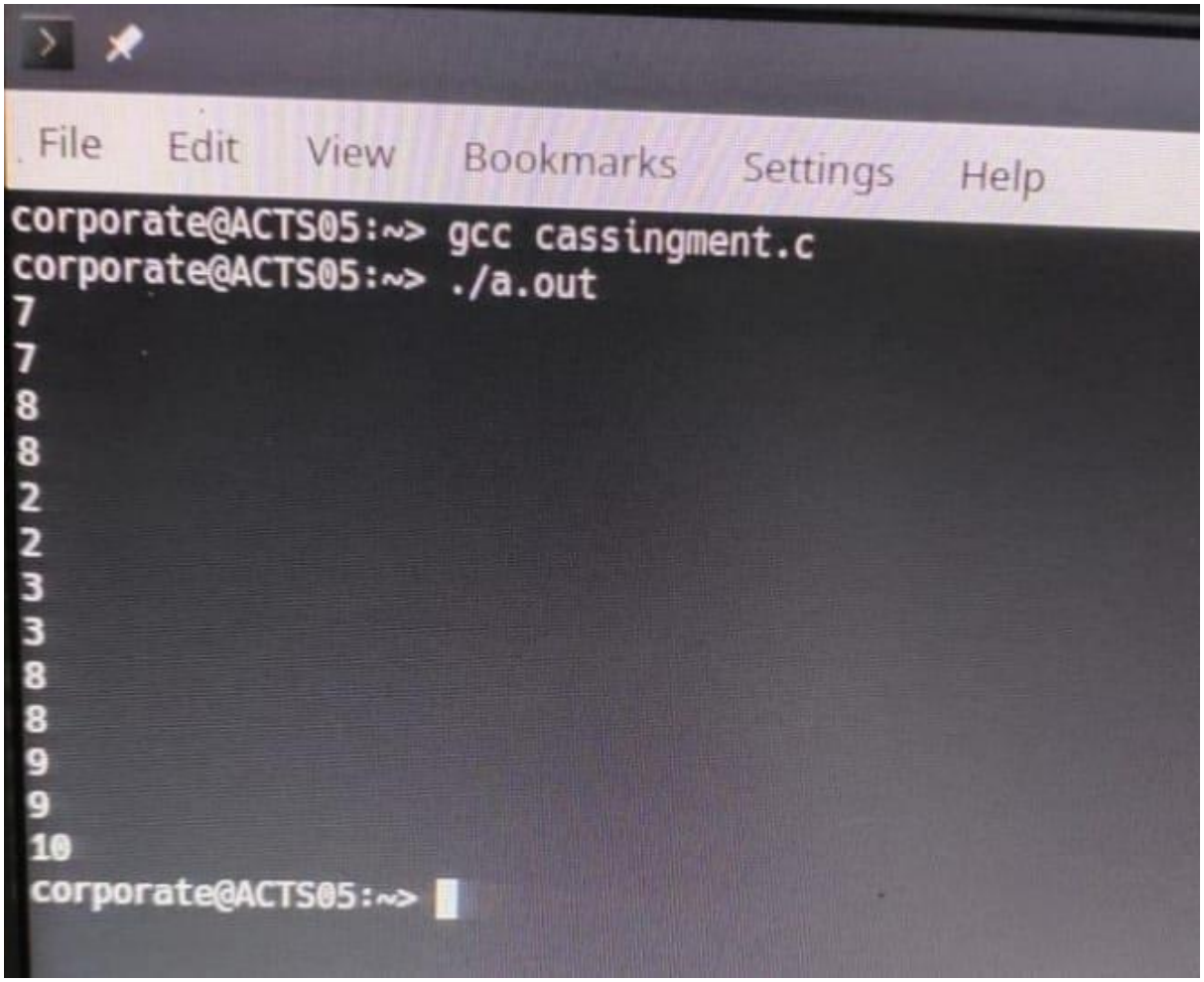
Output:-



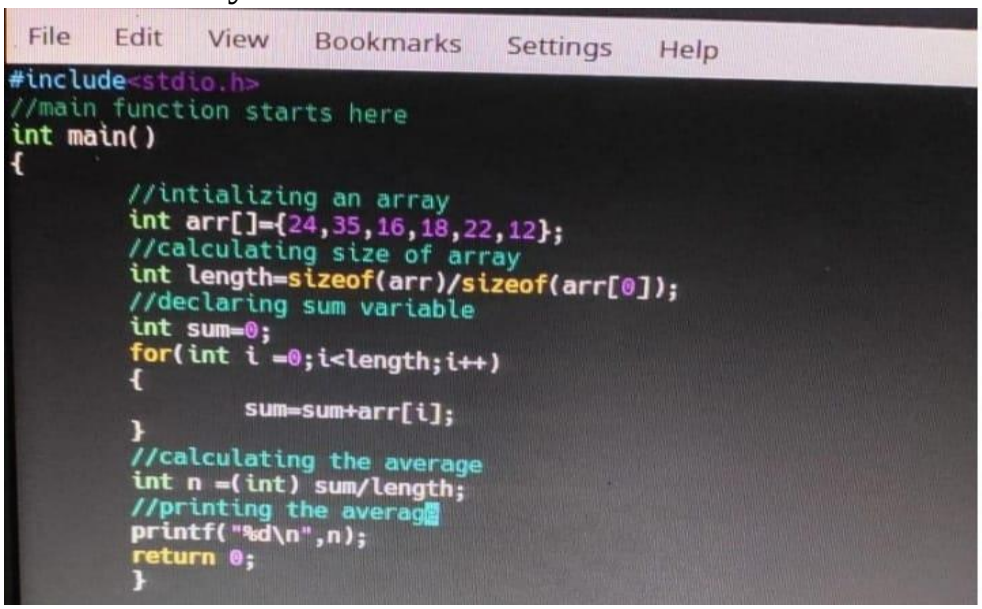
Q4.Write a c program using while loop and accept input from user until user enter multiple of 10.


File Edit View Bookmarks Settings Help
#include<stdio.h>
#include <math.h>
//main function starts here
int main()
{
//declare two variables
int a=1;
int n;
while(a!=0)
{
//taking input number from user
scanf("%d",&n);
//if the number is divisible by 10 means we have to stop here
if(n%10==0)
{a=0;}
else
//otherwise print the number
printf("%d\n",n);
}
return 0;
}

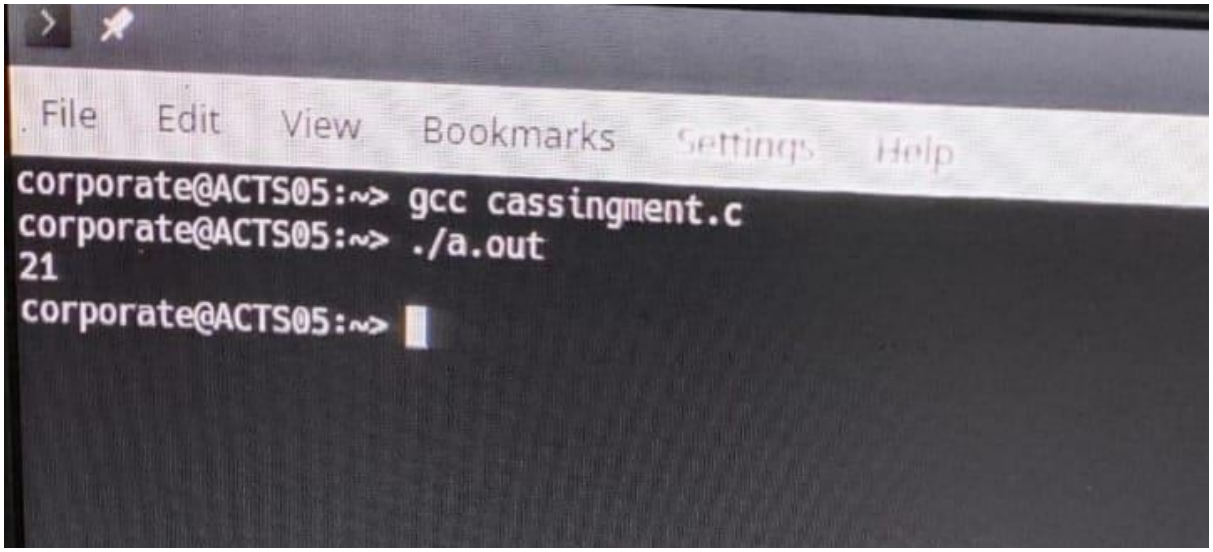
Output:-



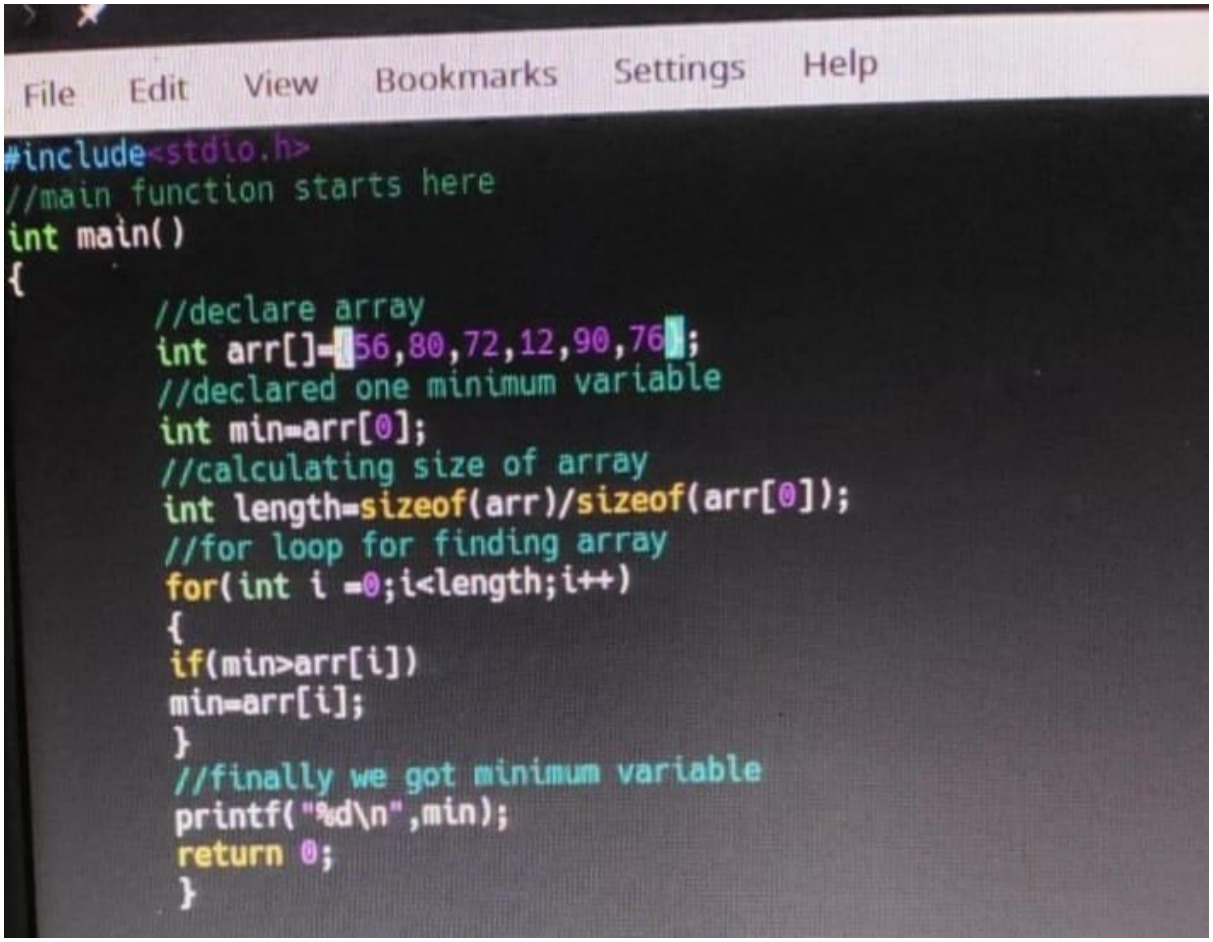
5)Write a program to calculate the average age of employees from the array.



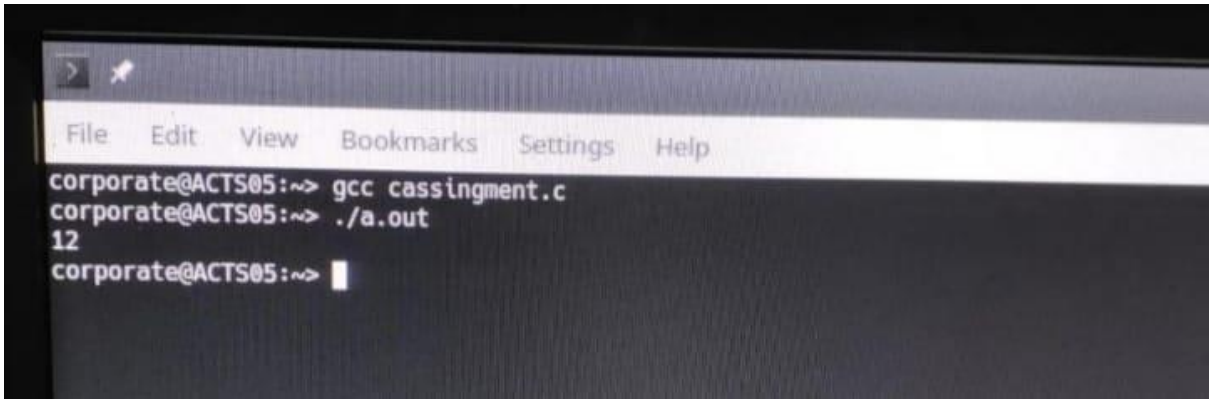
Output:-



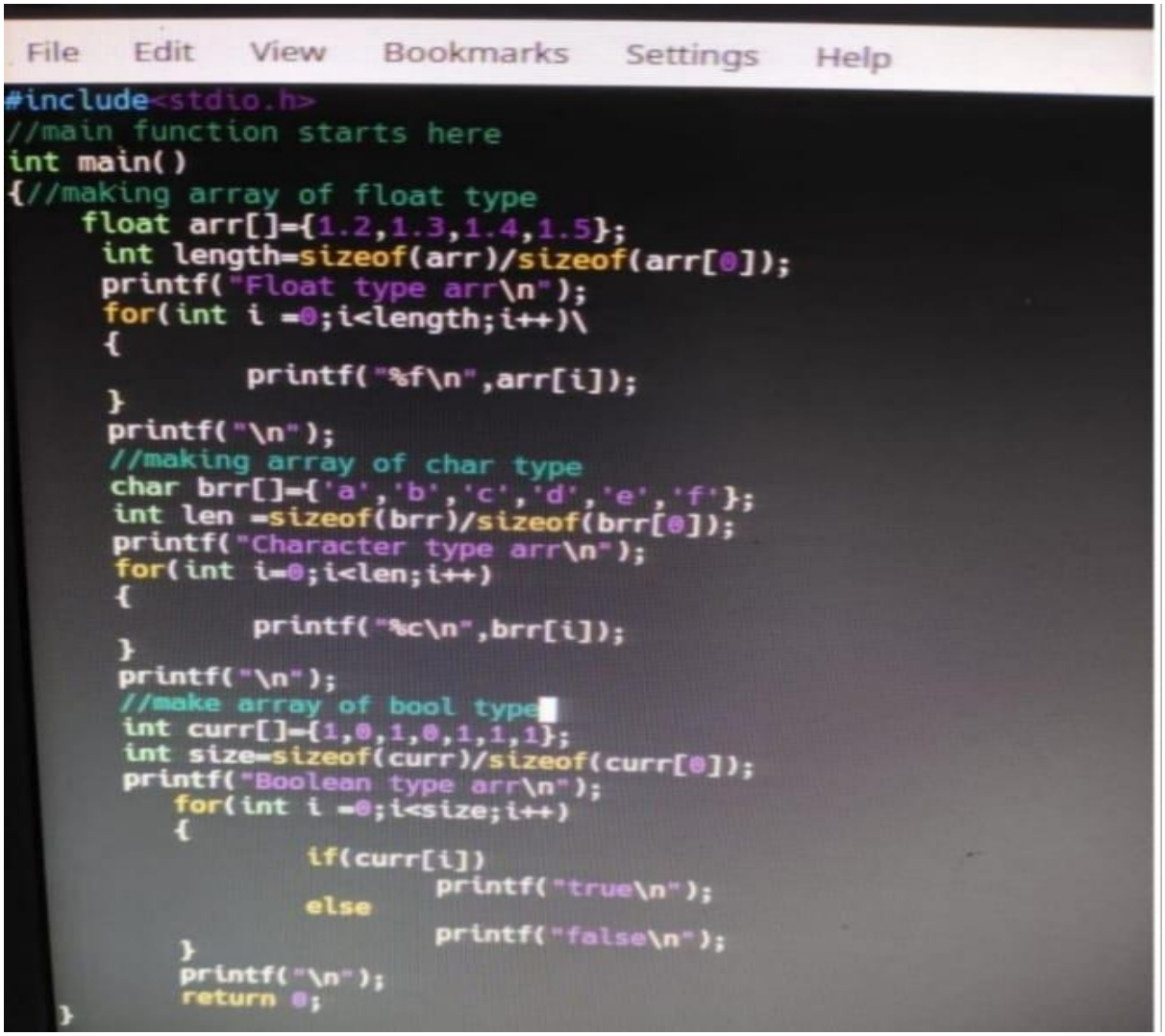
6)Write a program to calculate the youngest among the employees.



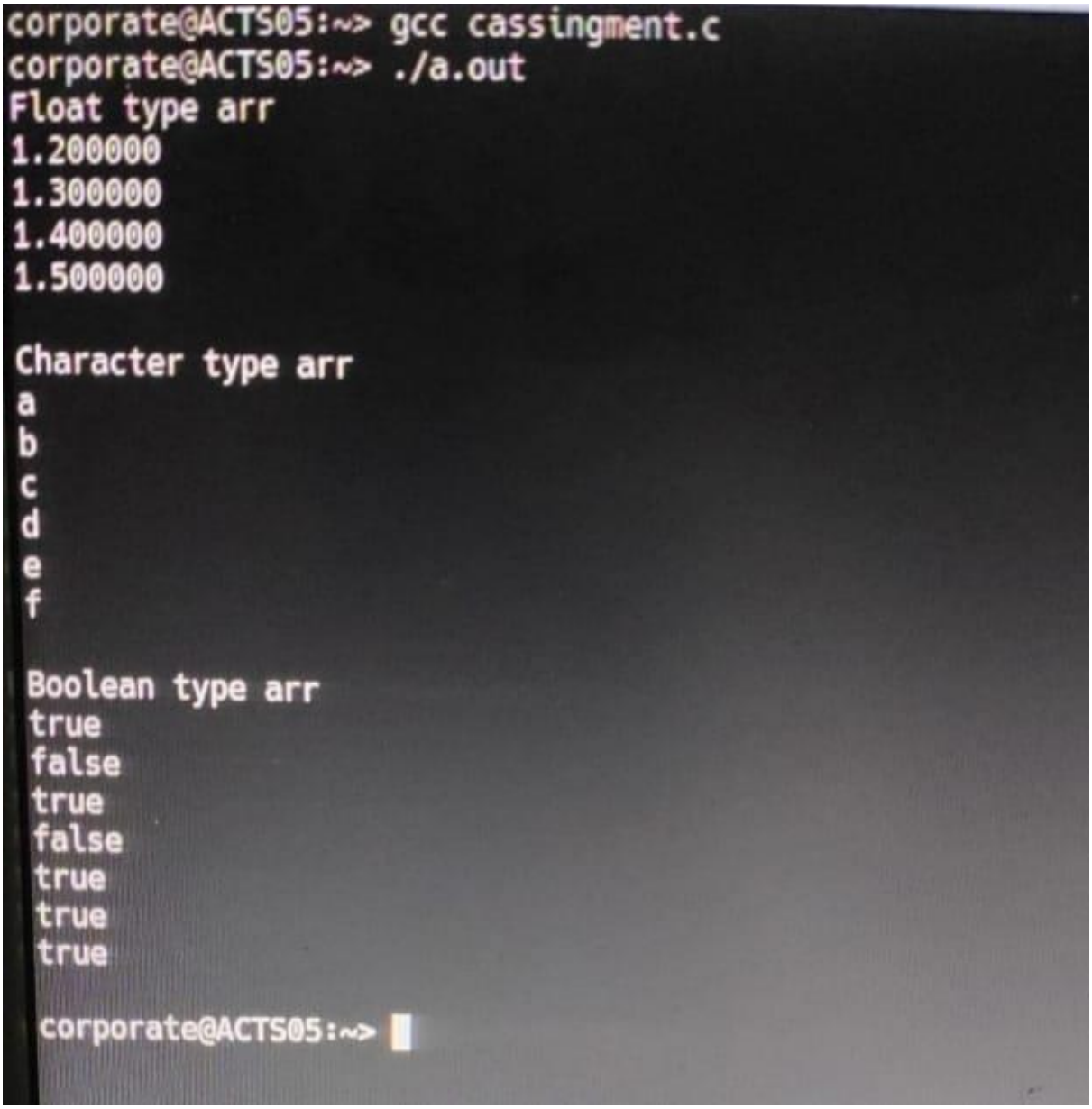
Output:-



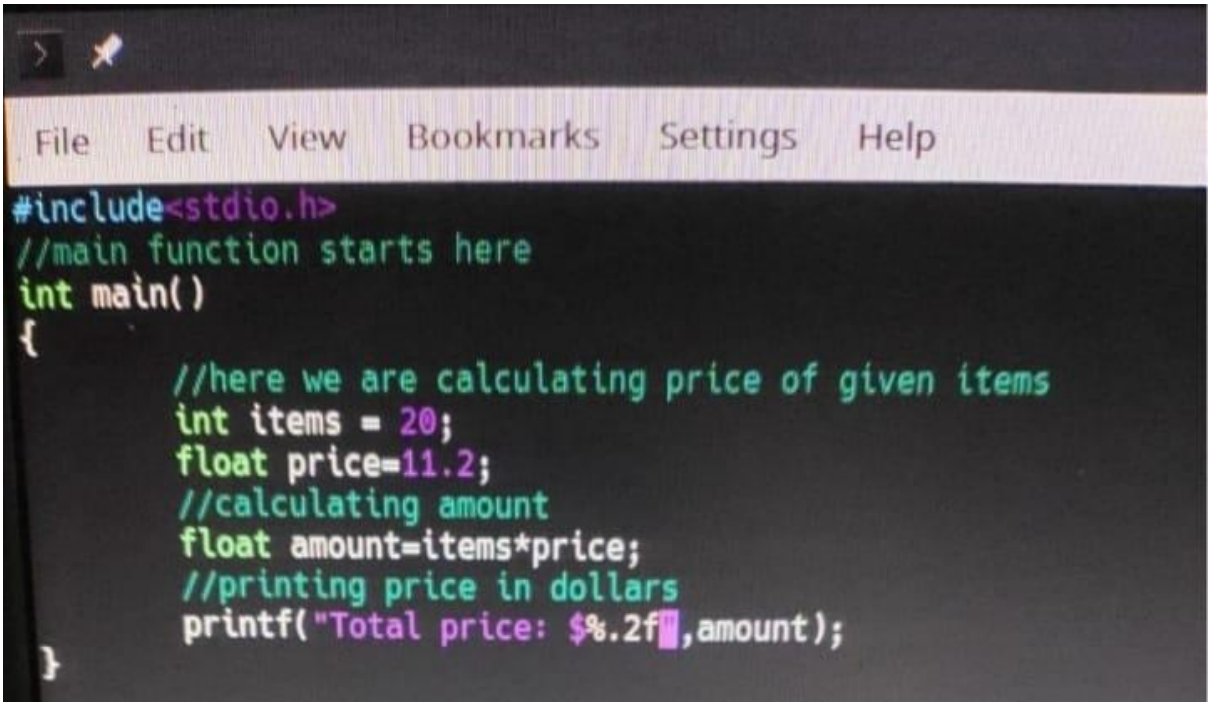
7)Write a program to demonstrate arrays of the following types float,char,bool.



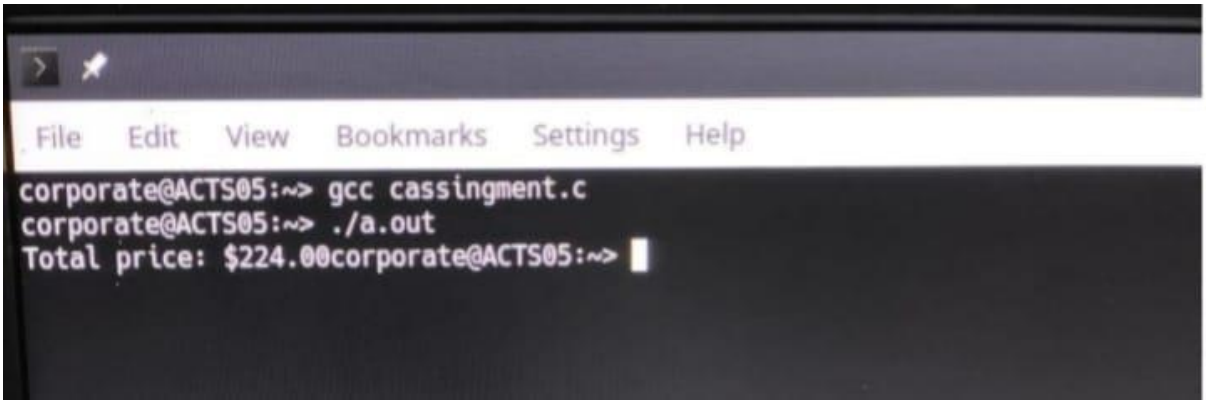
Output:-



8)Write a program to calculate the total cost on a purchase order with the following
details.There are 20 items costing 11.2 per item. Display the total cost in dollars.

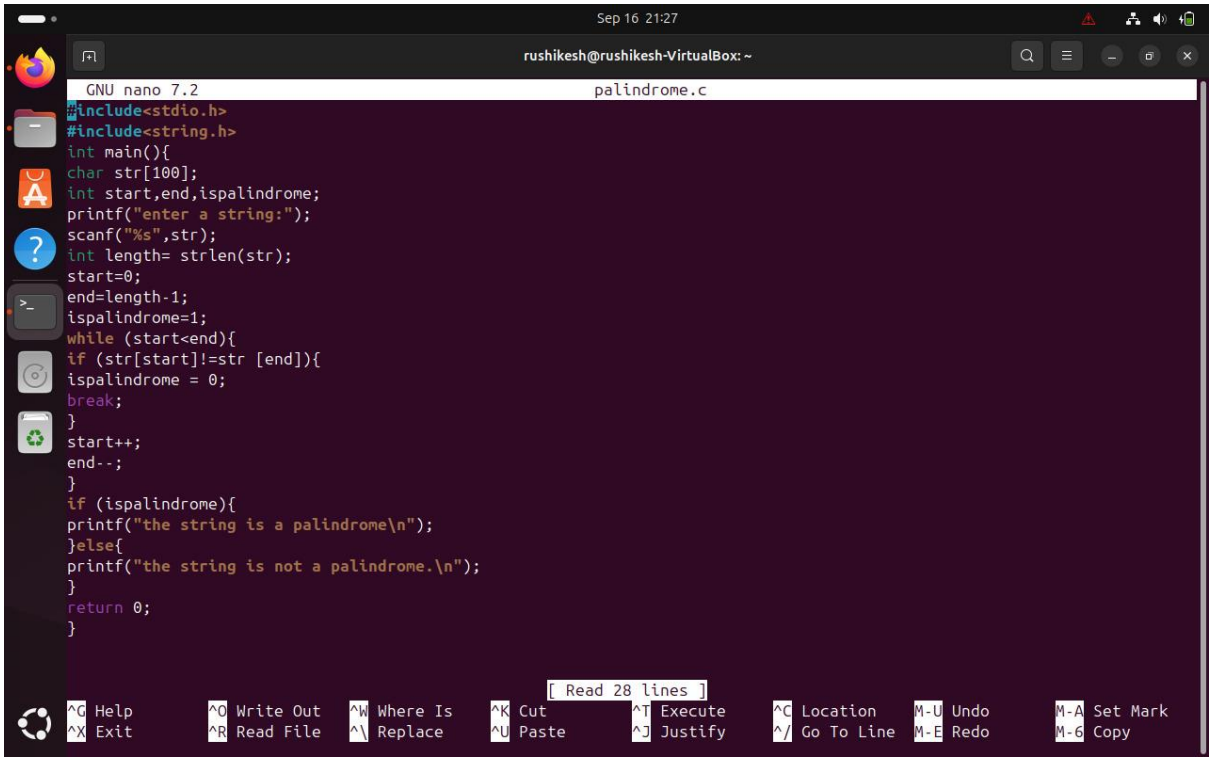


Output:-

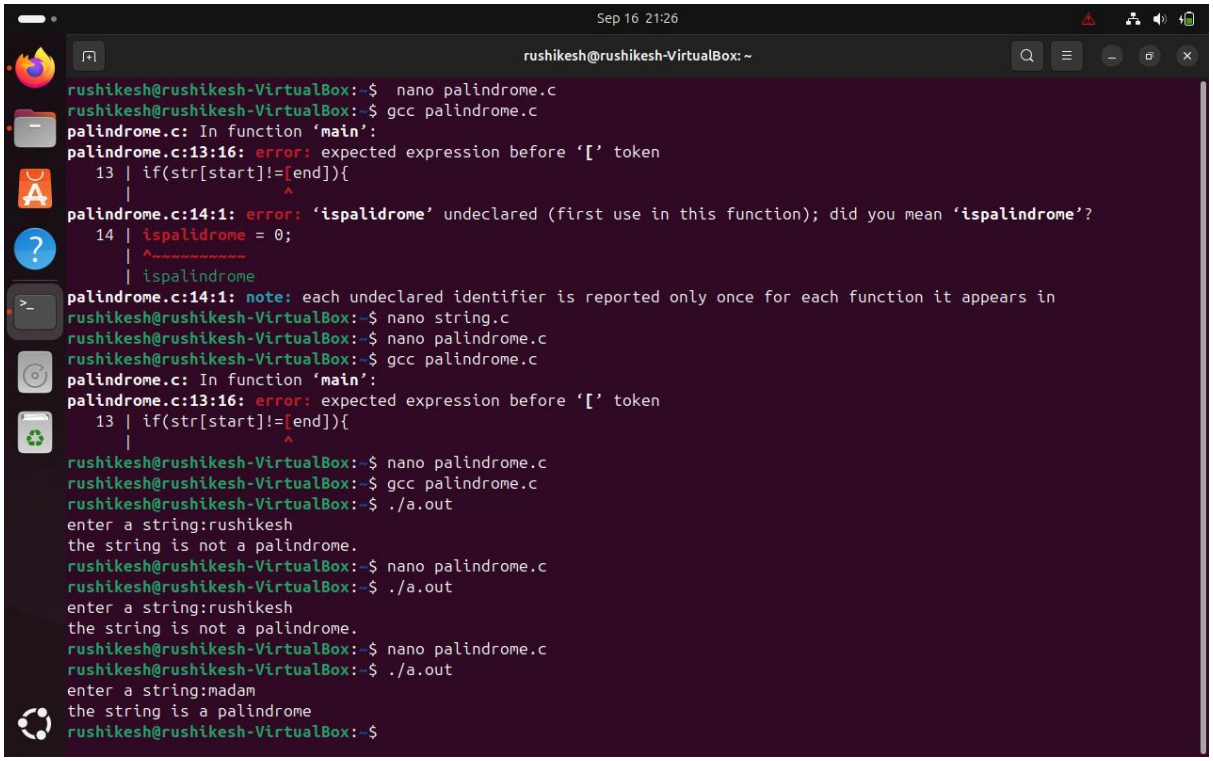


----------4Day Assignment----------

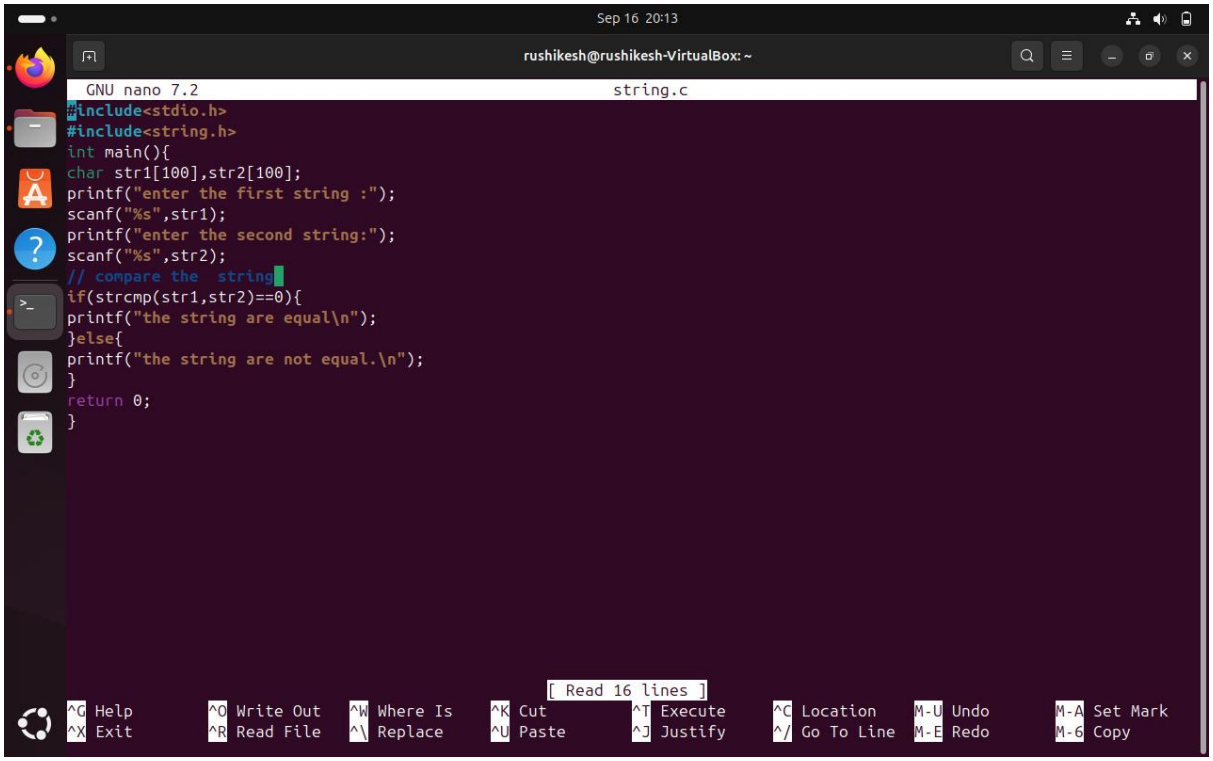
Q1>Write a program to check a given input is palindrome.



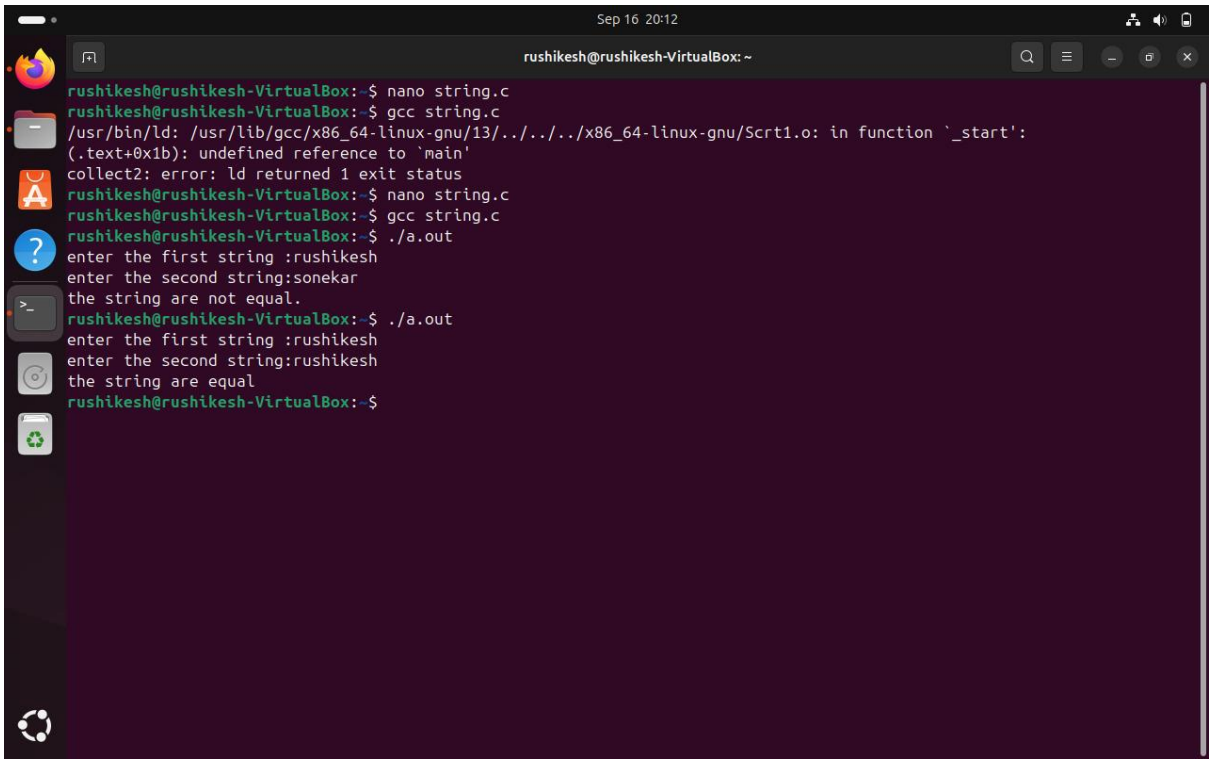
Output:-



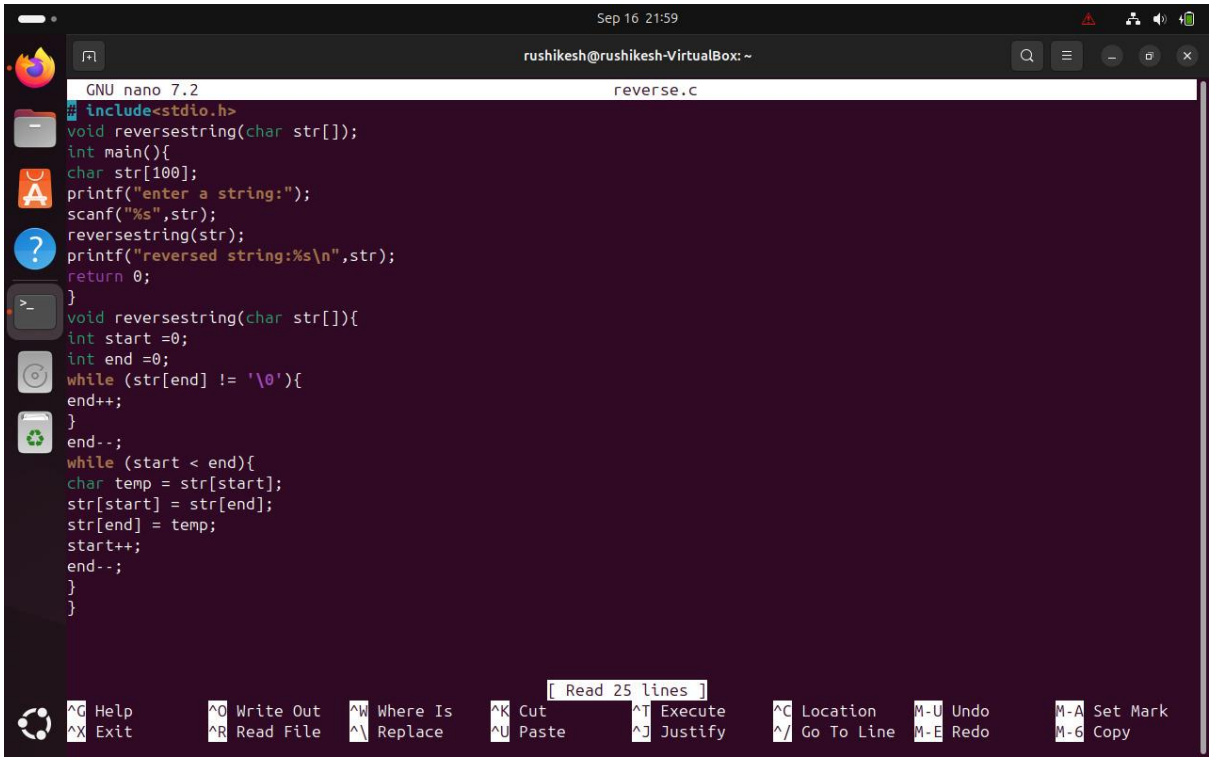
Q2>Write a program to check whether a two strings are equal to or not.



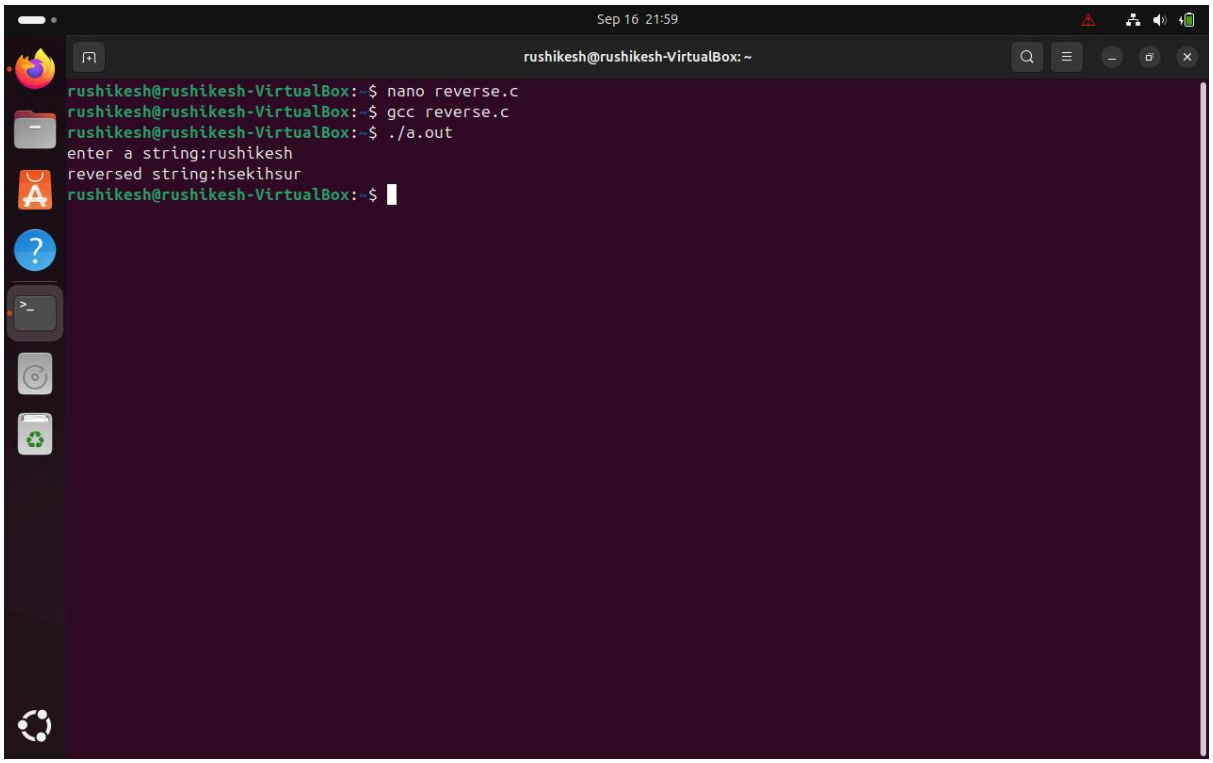
Output:-



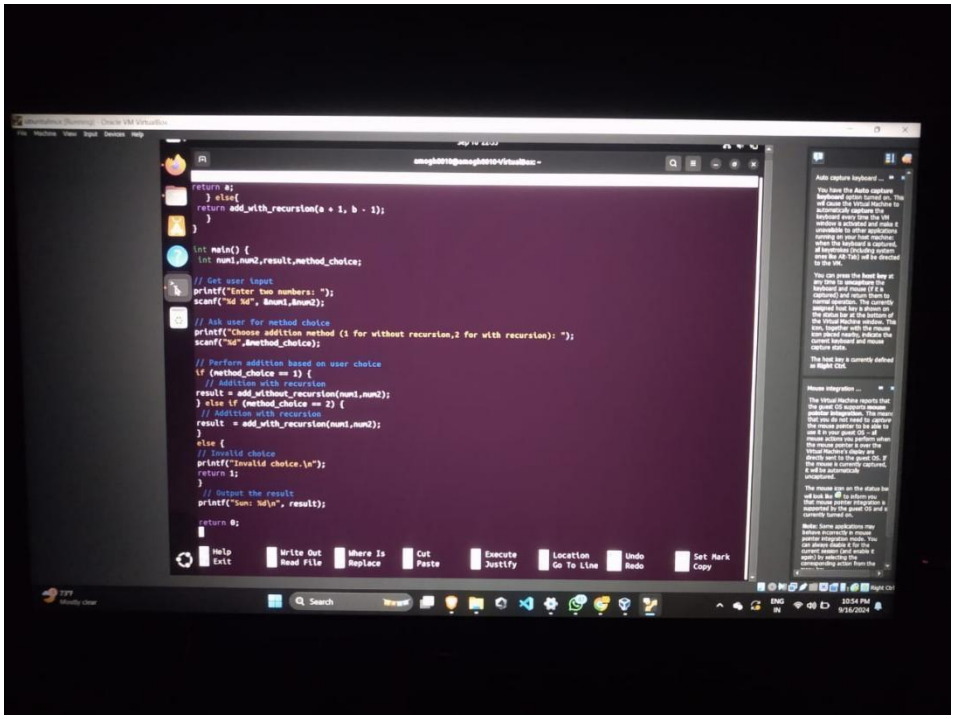
Q3>Write a program to create reverse string.



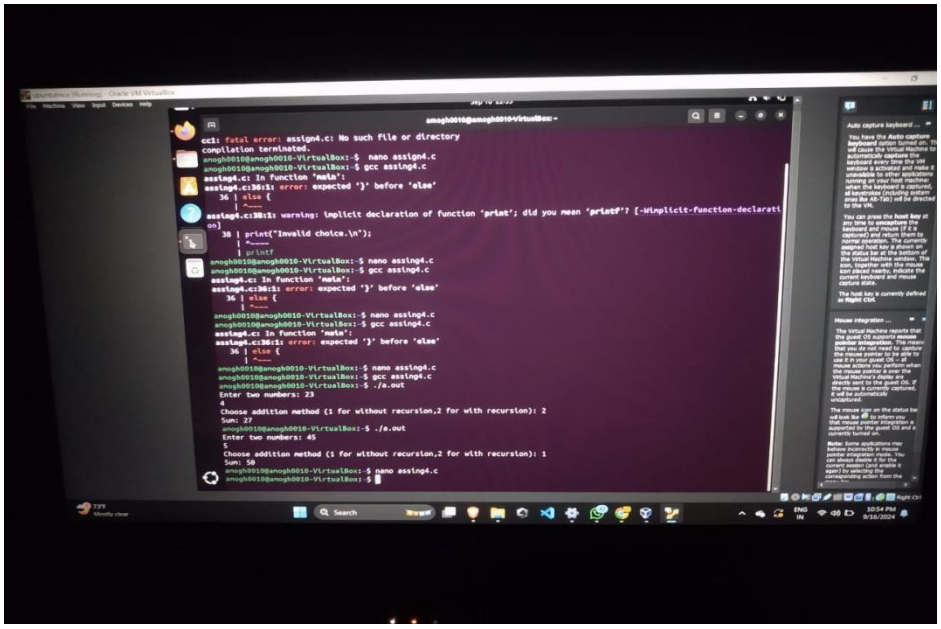
Output:-



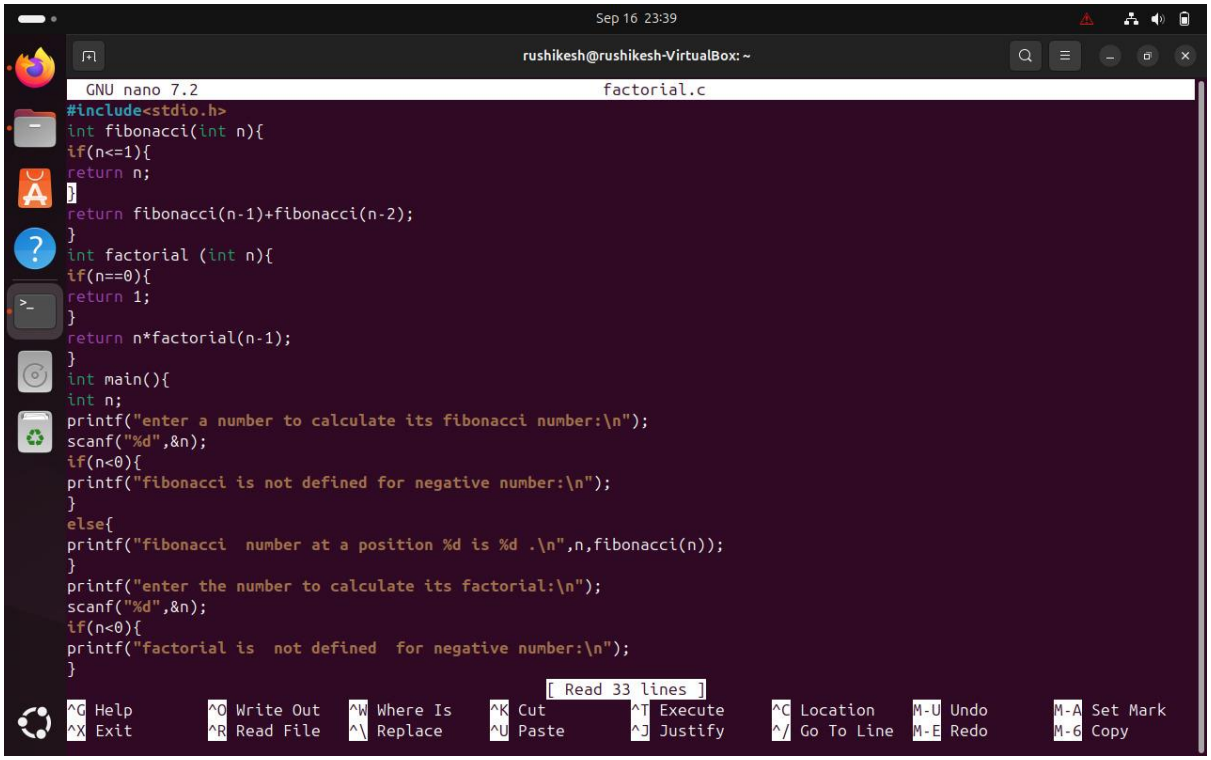
Q4>Write a program for addition without recursion and with recursion.



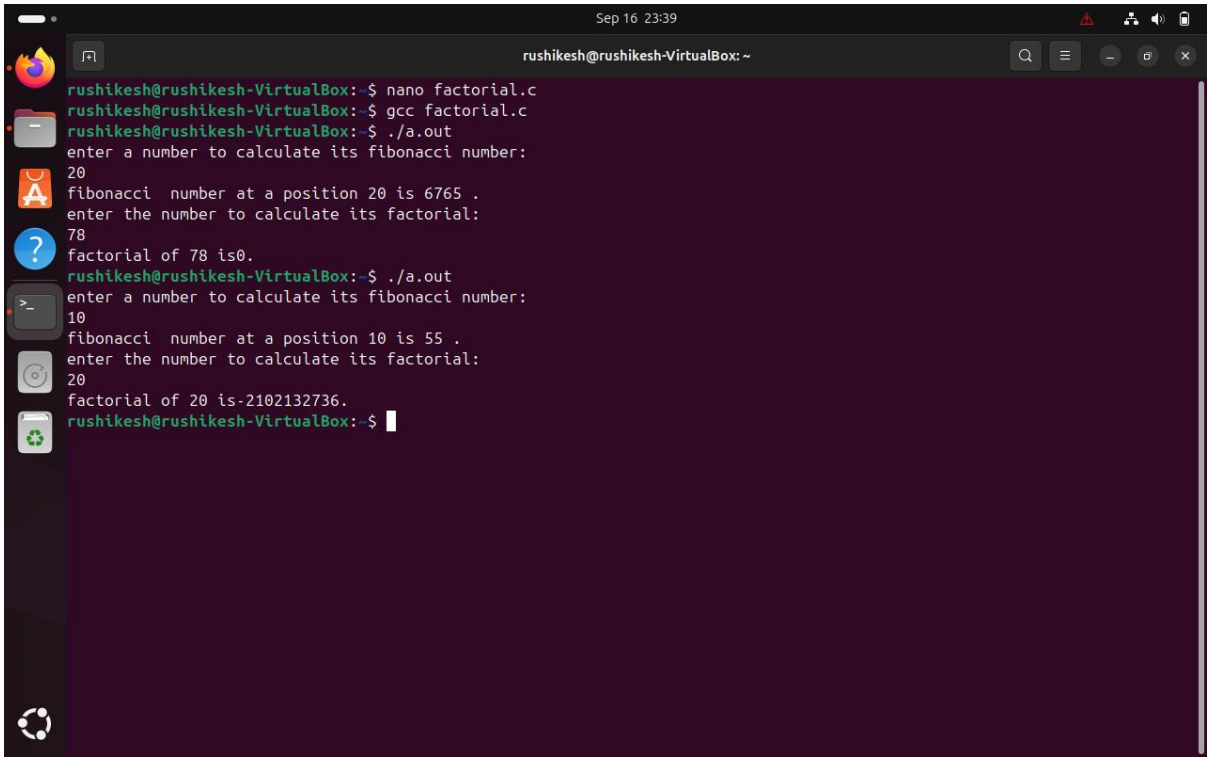
Output:-



Q5.>Write a program for Fibonacci series and factorial using recursion.


Sep 16 23:39
rushikesh@rushikesh-VirtualBox: ~
GNU nano 7.2 factorial.c
#include<stdio.h>
int fibonacci(int n){
if(n<=1){
return n;
}
return fibonacci(n-1)+fibonacci(n-2);
}
int factorial (int n){
if(n==0){
return 1;
}
return n*factorial(n-1);
}
int main(){
int n;
printf("enter a number to calculate its fibonacci number:\n");
scanf("%d",&n);
if(n<0){
printf("fibonacci is not defined for negative number:\n");
}
else{
printf("fibonacci number at a position %d is %d .\n",n,fibonacci(n));
}
printf("enter the number to calculate its factorial:\n");
scanf("%d",&n);
if(n<0){
printf("factorial is not defined for negative number:\n");
}
[Read 33 lines]
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo M-6 Copy

Output:-


Sep 16 23:39
rushikesh@rushikesh-VirtualBox: ~
rushikesh@rushikesh-VirtualBox:~$ nano factorial.c
rushikesh@rushikesh-VirtualBox:~$ gcc factorial.c
rushikesh@rushikesh-VirtualBox:~$ ./a.out
enter a number to calculate its fibonacci number:
20
fibonacci number at a position 20 is 6765 .
enter the number to calculate its factorial:
78
factorial of 78 is0.
rushikesh@rushikesh-VirtualBox:~$ ./a.out
enter a number to calculate its fibonacci number:
10
fibonacci number at a position 10 is 55 .
enter the number to calculate its factorial:
20
factorial of 20 is-2102132736.
rushikesh@rushikesh-VirtualBox:~$