

C Programming Assignment 1

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Compiler used - gcc 11.2.0 (Ubuntu 11.2.0-7ubuntu2)

1. Write a C program to find maximum between two numbers.

```
// Write a C program to find maximum between two numbers.
```

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

```
int main()
```

```
{
```

```
    printf("Name: Karthik Nair, Class: BCA1EA\n");
```

```
    int a,b;
```

```
    printf("\nEnter the first number: ");
```

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

```
    printf("Enter the second number: ");
```

```
    scanf("%d", &b);
```

```
    if (a>b)
```

```
    {
```

```
        printf("\n%d is the maximum number", a);
```

```
    }
```

```
    else if (a<b)
```

```
    {
```

```
        printf("\n%d is the maximum number", b);
```

```
    }
```

```
    // Exception
```

```
    else
```

```
    {
```

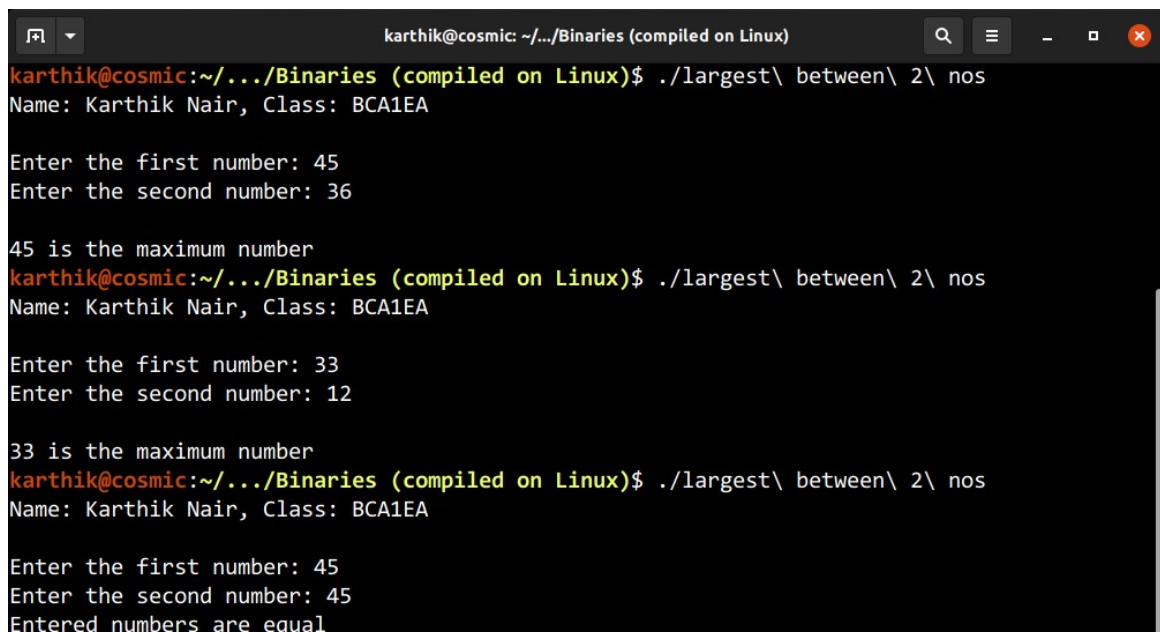
```
        printf("Entered numbers are equal");
```

```
    }
```

```
    printf("\n");
```

```
    return 0;
```

```
}
```



```
karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./largest\ between\ 2\ nos
Name: Karthik Nair, Class: BCA1EA

Enter the first number: 45
Enter the second number: 36

45 is the maximum number
karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./largest\ between\ 2\ nos
Name: Karthik Nair, Class: BCA1EA

Enter the first number: 33
Enter the second number: 12

33 is the maximum number
karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./largest\ between\ 2\ nos
Name: Karthik Nair, Class: BCA1EA

Enter the first number: 45
Enter the second number: 45
Entered numbers are equal
```

2. Write a C program to find maximum between three numbers.

```
// Write a C program to find maximum between three numbers
```

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

```
int main()
```

```
{
```

```
    printf("Name: Karthik Nair, Class: BCA1EA\n");
```

```
    int a,b,c;
```

```
    printf("Enter the first number: ");
```

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

```
    printf("Enter the second number: ");
```

```
    scanf("%d", &b);
```

```
    printf("Enter the third number: ");
```

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

```
    if ((a>b)&&(a>c))
```

```
    {
```

```
        printf("%d is the largest number !",a);
```

```
    }
```

```
    else if ((b>a)&&(b>c))
```

```
    {
```

```
        printf("%d is the largest number !",b);
```

```
    }
```

```
    else if ((c>a)&&(c>b))
```

```
    {
```

```
        printf("%d is the largest number !",c);
```

```
    }
```

```
    // Exception
```

```
    else
```

```
    {
```

```
        printf("Entered numbers are equal");
```

```
    }
```

```
    printf("\n");
```

```
}
```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./largest\ between\ three\ numbers
Name: Karthik Nair, Class: BCA1EA
Enter the first number: 34
Enter the second number: 25
Enter the third number: 22
34 is the largest number !
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./largest\ between\ three\ numbers
Name: Karthik Nair, Class: BCA1EA
Enter the first number: 454
Enter the second number: 3
Enter the third number: 34356
34356 is the largest number !
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./largest\ between\ three\ numbers
Name: Karthik Nair, Class: BCA1EA
Enter the first number: 3456
Enter the second number: 4000
Enter the third number: 23
4000 is the largest number !
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./largest\ between\ three\ numbers
Name: Karthik Nair, Class: BCA1EA
Enter the first number: 34
Enter the second number: 34
Enter the third number: 34
Entered numbers are equal
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

3. Write a C program to check whether a number is negative, positive or zero.

// Write a C program to check whether a number is negative, positive or zero

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int num;
    printf("Enter a number: ");
    scanf("%d",&num);
    printf("The entered number '%d' is ",num);
    if (num>0)
    {
        printf("positive!");
    }
    else if (num<0)
    {
        printf("negative!");
    }
    else
    {
        printf("zero!");
    }
    printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./find\ if\ negative\ positive\ or\ zero
Name: Karthik Nair, Class: BCA1EA
Enter a number: 34
The entered number '34' is positive!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./find\ if\ negative\ positive\ or\ zero
Name: Karthik Nair, Class: BCA1EA
Enter a number: -65
The entered number '-65' is negative!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./find\ if\ negative\ positive\ or\ zero
Name: Karthik Nair, Class: BCA1EA
Enter a number: 0
The entered number '0' is zero!

```

4. Write a C program to check whether a number is divisible by 5 and 11 or not

// Write a C program to check whether a number is divisible by 5 and 11 or not

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int num;
    printf("Enter a number: ");
    scanf("%d",&num);
    if ((num%5==0)&&(num%11==0))
    {
        printf("%d is divisible by 5 and 11", num);
    }
    else
    {
        printf("%d is not divisible by 5 and 11", num);
    }
    printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./divisible\ by\ 5\ and\ 11\ or\ not
Name: Karthik Nair, Class: BCA1EA
Enter a number: 34
34 is not divisible by 5 and 11
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./divisible\ by\ 5\ and\ 11\ or\ not
Name: Karthik Nair, Class: BCA1EA
Enter a number: 11
11 is not divisible by 5 and 11
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./divisible\ by\ 5\ and\ 11\ or\ not
Name: Karthik Nair, Class: BCA1EA
Enter a number: 55
55 is divisible by 5 and 11
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./divisible\ by\ 5\ and\ 11\ or\ not
Name: Karthik Nair, Class: BCA1EA
Enter a number: 165
165 is divisible by 5 and 11

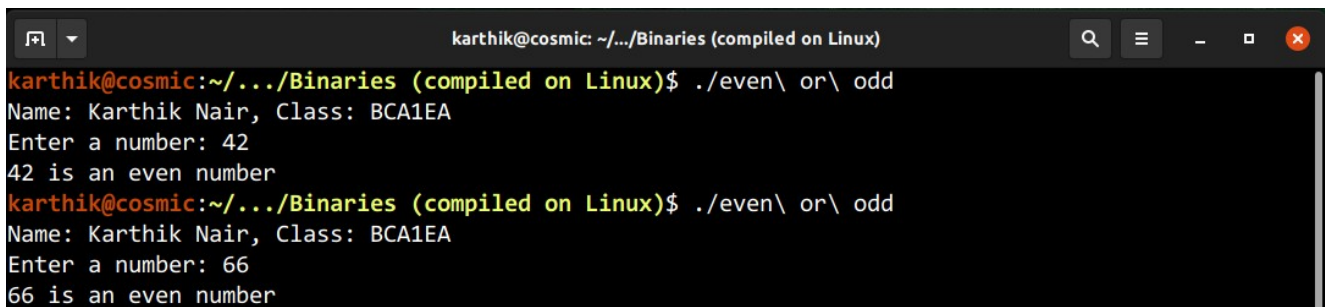
```

5. Write a C program to check whether a number is even or odd

// Write a C program to check whether a number is even or odd

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

```
int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int num;
    printf("Enter a number: ");
    scanf("%d", &num);
    printf("%d is an ", num);
    if (num%2==0)
    {
        printf("even");
    }
    else
    {
        printf("odd");
    }
    printf(" number\n");
}
```



The screenshot shows a terminal window with the title 'karthik@cosmic: ~/.../Binaries (compiled on Linux)'. The prompt is 'karthik@cosmic:~/.../Binaries (compiled on Linux)\$./even\ or\ odd'. The program output is 'Name: Karthik Nair, Class: BCA1EA' followed by 'Enter a number: 42' and '42 is an even number'. The prompt is repeated, and the user enters '66', resulting in '66 is an even number'.

6. Write a C program to check whether an year is leap year or not

// Write a C program to check whether a year is leap year or not

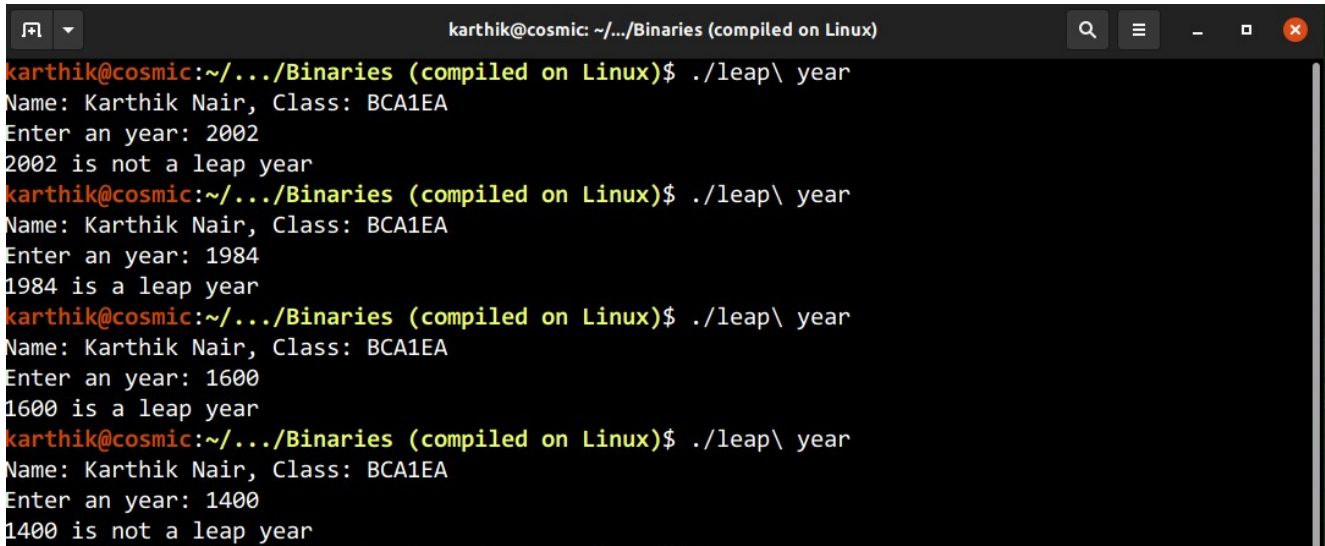
```
#include <stdio.h>
```

```
int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int year;
    printf("Enter an year: ");
    scanf("%d",&year);
    printf("%d is ", year);
    if ((year%4==0)&&((year%400==0)||((year%100)!=0)))
    {
        printf("a leap year");
    }
}
```

```

    }
else
{
    printf("not a leap year");
}
printf("\n");
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./leap\ year
Name: Karthik Nair, Class: BCA1EA
Enter an year: 2002
2002 is not a leap year
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./leap\ year
Name: Karthik Nair, Class: BCA1EA
Enter an year: 1984
1984 is a leap year
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./leap\ year
Name: Karthik Nair, Class: BCA1EA
Enter an year: 1600
1600 is a leap year
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./leap\ year
Name: Karthik Nair, Class: BCA1EA
Enter an year: 1400
1400 is not a leap year

```

7. Write a C program to check whether a character is alphabet or not.

// Write a C program to check whether a character is alphabet or not

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    char a;
    printf("Enter a character: ");
    scanf("%c",&a);
    printf("%c is ", a);
    if (((a>='a')&&(a<='z'))||((a>='A')&&(a<='Z'))))
    {
        printf("an Alphabet");
    }
else
{
    printf("not an Alphabet");
}
printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./alphabet\ or\ not
Name: Karthik Nair, Class: BCA1EA
Enter a character: 3
3 is not an Alphabet
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./alphabet\ or\ not
Name: Karthik Nair, Class: BCA1EA
Enter a character: r
r is an Alphabet
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./alphabet\ or\ not
Name: Karthik Nair, Class: BCA1EA
Enter a character: $
$ is not an Alphabet
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./alphabet\ or\ not
Name: Karthik Nair, Class: BCA1EA
Enter a character: F
F is an Alphabet

```

8. Write a C program to input any alphabet and check whether it is vowel or consonant

// Write a C program to input any alphabet and check whether it is vowel or consonant

```

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    char a;
    printf("Enter a character: ");
    scanf("%c",&a);
    printf("%c is ", a);
    if ((a=='a')||(a=='A')||(a=='e')||(a=='E')||(a=='i')||(a=='I')
        ||(a=='o')||(a=='O')||(a=='u')||(a=='U'))
    {
        printf("a vowel!\n");
    }
    else if (((a>='a')&&(a<='z'))||((a>='A')&&(a<='Z'))))
    {
        printf("a consonant!\n");
    }
    // Exception
    else
    {
        printf("neither a vowel nor a consonant!\n");
    }
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./vowel\ or\ consonant
Name: Karthik Nair, Class: BCA1EA
Enter a character: r
r is a consonant!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./vowel\ or\ consonant
Name: Karthik Nair, Class: BCA1EA
Enter a character: e
e is a vowel!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./vowel\ or\ consonant
Name: Karthik Nair, Class: BCA1EA
Enter a character: E
E is a vowel!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./vowel\ or\ consonant
Name: Karthik Nair, Class: BCA1EA
Enter a character: W
W is a consonant!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./vowel\ or\ consonant
Name: Karthik Nair, Class: BCA1EA
Enter a character: 1
1 is neither a vowel nor a consonant!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ █

```

9. Write a C program to input any character and check whether it is alphabet, digit or special character.

```

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    char a;
    printf("Enter a character: ");
    scanf("%c", &a);
    printf("Entered character is ");
    if (((a>='a')&&(a<='z'))||((a>='A')&&(a<='Z'))))
    {
        printf("an alphabet");
    }
    else if ((a>='0')&&(a<='9'))
    {
        printf("a number");
    }
    else
    {
        printf("a special character");
    }
    printf("\n");
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./alphabet\ digit\ or\ special\ character
Name: Karthik Nair, Class: BCA1EA
Enter a character: r
Entered character is an alphabet
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./alphabet\ digit\ or\ special\ character
Name: Karthik Nair, Class: BCA1EA
Enter a character: $
Entered character is a special character
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./alphabet\ digit\ or\ special\ character
Name: Karthik Nair, Class: BCA1EA
Enter a character: W
Entered character is an alphabet
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./alphabet\ digit\ or\ special\ character
Name: Karthik Nair, Class: BCA1EA
Enter a character: 1
Entered character is a number
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

10. Write a C program to check whether a character is uppercase or lowercase alphabet.

// Write a C program to check whether a character is uppercase or lowercase alphabet

```

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    char a;
    printf("Enter a character: ");
    scanf("%c", &a);
    printf("Entered character '%c' is ", a);
    if (((a>='a')&&(a<='z'))||((a>='A')&&(a<='Z'))))
    {
        if ((a>='a')&&(a<='z'))
        {
            printf("lowercase");
        }
        else
        {
            printf("uppercase");
        }
    }
    // Exception
    else
    {
        printf("not an alphabet");
    }
    printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./ucase\ or\ lcase
Name: Karthik Nair, Class: BCA1EA
Enter a character: e
entered character 'e' is lowercase!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./ucase\ or\ lcase
Name: Karthik Nair, Class: BCA1EA
Enter a character: H
entered character 'H' is uppercase!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./ucase\ or\ lcase
Name: Karthik Nair, Class: BCA1EA
Enter a character: 5
entered character '5' is not an alphabet!
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

11. Write a C program to input week day number and print week day name

// Write a C program to input week day number and print week day name

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

```
int main()
```

```
{
```

```
    int week_day_num;
```

```
    printf("Enter week day number: ");
```

```
    scanf("%d", &week_day_num);
```

```
    if ((week_day_num>0)&&(week_day_num<8))
```

```
    {
```

```
        switch (week_day_num)
```

```
        {
```

```
            case 1: printf("Monday"); break;
```

```
            case 2: printf("Tuesday"); break;
```

```
            case 3: printf("Wednesday"); break;
```

```
            case 4: printf("Thursday"); break;
```

```
            case 5: printf("Friday"); break;
```

```
            case 6: printf("Saturday"); break;
```

```
            case 7: printf("Sunday"); break;
```

```
        }
```

```
    }
```

```
    else
```

```
    {
```

```
        printf("Input must be numbers within 1 to 7 ");
```

```
    }
```

```
    printf("\n");
```

```
}
```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./week_day
Name: Karthik Nair, Class: BCA1EA
Enter week day number: 3
Wednesday
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./week_day
Name: Karthik Nair, Class: BCA1EA
Enter week day number: 7
Sunday
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./week_day
Name: Karthik Nair, Class: BCA1EA
Enter week day number: 9
Input must be numbers within 1 to 7
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

12. Write a C program to input month number and print number of days in that month.

// Write a C program to input month number and print number of days in that month

```

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int num, days;
    printf("Enter month number: ");
    scanf("%d", &num);
    if ((num>=1)&&(num<=12))
    {
        if (num==2)
        {
            days=28;
        }
        else if ((num==1)|| (num==3)|| (num==5)|| (num==7)|| (num==8)||
(num==10)|| (num==12))
        {
            days=31;
        }
        else
        {
            days=30;
        }
        printf("Month %d has %d days", num, days);
    }
    // Exception
    else
    {
        printf("input should be within 1 to 12");
    }
    printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./days\ in\ month
Name: Karthik Nair, Class: BCA1EA
Enter month number: 5
Month 5 has 31 days
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./days\ in\ month
Name: Karthik Nair, Class: BCA1EA
Enter month number: 12
Month 12 has 31 days
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./days\ in\ month
Name: Karthik Nair, Class: BCA1EA
Enter month number: 2
Month 2 has 28 days
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./days\ in\ month
Name: Karthik Nair, Class: BCA1EA
Enter month number: 7
Month 7 has 31 days
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./days\ in\ month
Name: Karthik Nair, Class: BCA1EA
Enter month number: 13
input should be within 1 to 12
karthik@cosmic:~/.../Binaries (compiled on Linux)$ 

```

13. Write a C program to count total number of notes in given amount

// Write a C program to count total number of notes in given amount

```

#include <stdio.h>

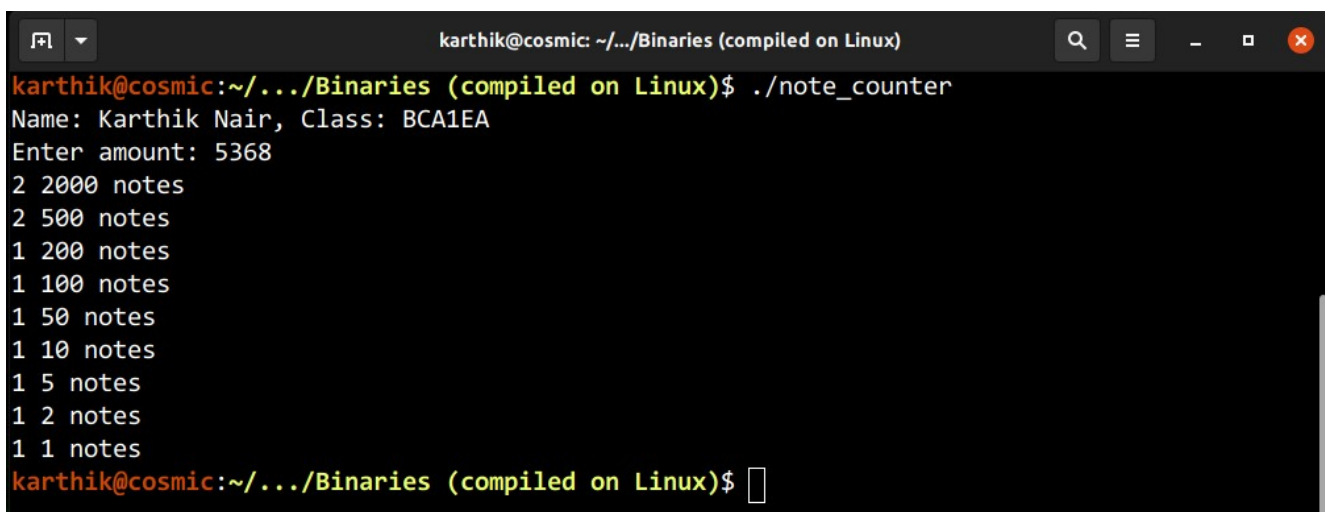
int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int n;
    printf("Enter amount: ");
    scanf ("%d",&n);
    while (n!=0)
    {
        if (n>=2000)
        {
            printf("%d 2000 notes\n", n/2000);
            n=n%2000;
        }
        else if (n>=500)
        {
            printf("%d 500 notes\n", n/500);
            n=n%500;
        }
        else if (n>=200)
        {
            printf("%d 200 notes\n", n/200);
            n=n%200;
        }
        else if (n>=100)
        {

```

```

        printf("%d 100 notes\n", n/100);
        n=n%100;
    }
    else if (n>=50)
    {
        printf("%d 50 notes\n", n/50);
        n=n%50;
    }
    else if (n>=20)
    {
        printf("%d 20 notes\n", n/20);
        n=n%20;
    }
    else if (n>=10)
    {
        printf("%d 10 notes\n", n/10);
        n=n%10;
    }
    else if (n>=5)
    {
        printf("%d 5 notes\n", n/5);
        n=n%5;
    }
    else if (n>=2)
    {
        printf("%d 2 notes\n", n/2);
        n=n%2;
    }
    else if (n>=1)
    {
        printf("%d 1 notes\n", n/1);
        n=n%1;
    }
}
}

```



```

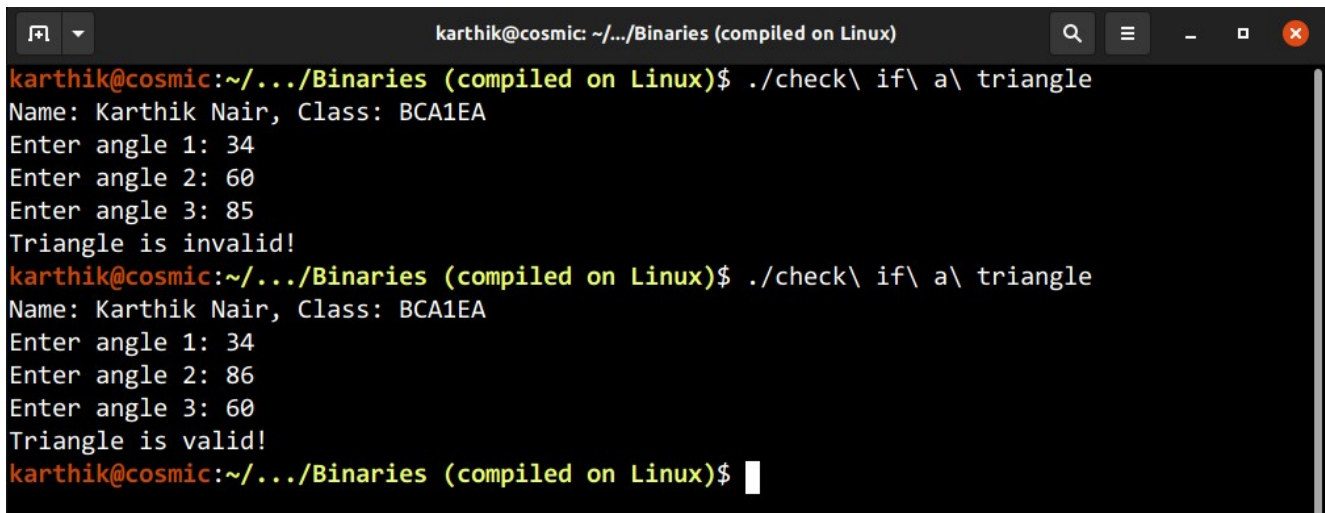
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./note_counter
Name: Karthik Nair, Class: BCA1EA
Enter amount: 5368
2 2000 notes
2 500 notes
1 200 notes
1 100 notes
1 50 notes
1 10 notes
1 5 notes
1 2 notes
1 1 notes
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

14. Write a C program to input angles of a triangle and check whether triangle is valid or not

```
// Write a C program to input angles of a triangle and check whether triangle
is valid or not
#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int angle1, angle2, angle3;
    printf("Enter angle 1: ");
    scanf("%d", &angle1);
    printf("Enter angle 2: ");
    scanf("%d", &angle2);
    printf("Enter angle 3: ");
    scanf("%d", &angle3);
    if ((angle1+angle2+angle3)==180)
    {
        printf("Triangle is valid!");
    }
    else
    {
        printf("Triangle is invalid!");
    }
    printf("\n");
}
}
```



```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./check\ if\ a\ triangle
Name: Karthik Nair, Class: BCA1EA
Enter angle 1: 34
Enter angle 2: 60
Enter angle 3: 85
Triangle is invalid!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./check\ if\ a\ triangle
Name: Karthik Nair, Class: BCA1EA
Enter angle 1: 34
Enter angle 2: 86
Enter angle 3: 60
Triangle is valid!
karthik@cosmic:~/.../Binaries (compiled on Linux)$
```

15. Write a C program to input all sides of a triangle and check whether triangle is valid or not

```
// Write a C program to input all sides of a triangle and check whether
triangle is valid or not

#include <stdio.h>

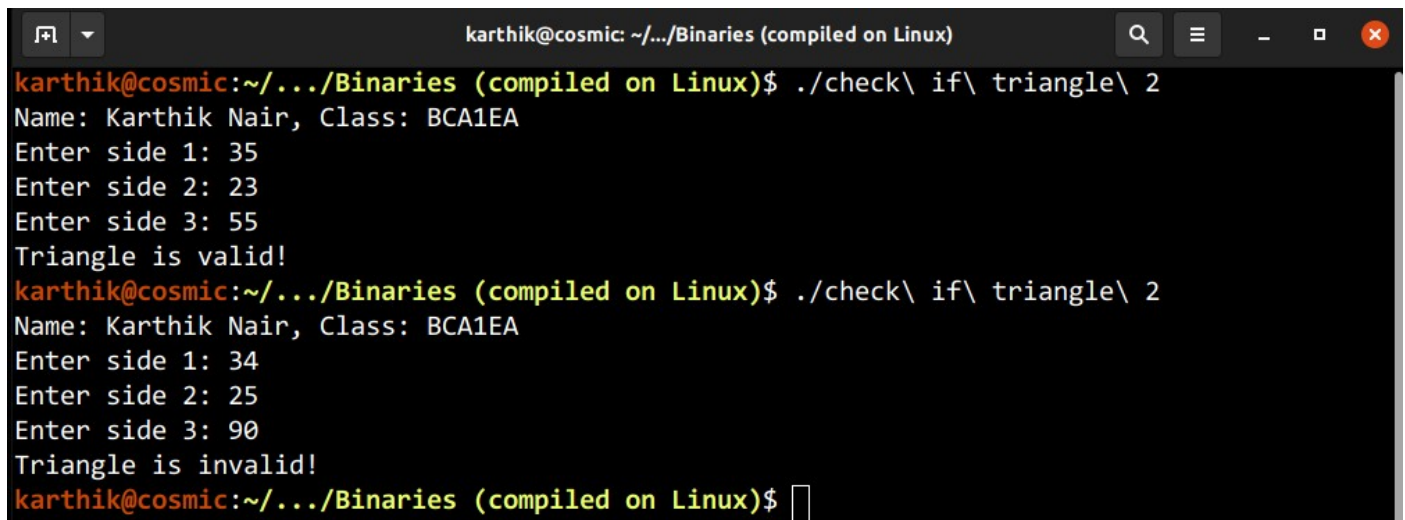
int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
```



```

int side1, side2, side3;
printf("Enter side 1: ");
scanf("%d", &side1);
printf("Enter side 2: ");
scanf("%d", &side2);
printf("Enter side 3: ");
scanf("%d", &side3);
if (((side1+side2)>side3)&&((side2+side3)>side1)&&((side1+side3)>side2))
{
    printf("Triangle is valid!");
}
else
{
    printf("Triangle is invalid!");
}
printf("\n");
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./check\ if\ triangle\ 2
Name: Karthik Nair, Class: BCA1EA
Enter side 1: 35
Enter side 2: 23
Enter side 3: 55
Triangle is valid!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./check\ if\ triangle\ 2
Name: Karthik Nair, Class: BCA1EA
Enter side 1: 34
Enter side 2: 25
Enter side 3: 90
Triangle is invalid!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ 

```

16. Write a C program to check whether the triangle is equilateral, isosceles or scalene triangle

// Write a C program to check whether the triangle is equilateral, isosceles or scalene triangle

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int side1, side2, side3;
    printf("Enter side 1: ");
    scanf("%d", &side1);
    printf("Enter side 2: ");
    scanf("%d", &side2);
    printf("Enter side 3: ");
    scanf("%d", &side3);
    if (((side1+side2)>side3)&&((side2+side3)>side1)&&((side1+side3)>side2))

```



```

{
    if ((side1!=side2)|| (side1!=side3)|| (side2!=side3))
    {
        if ((side1==side2)|| (side1==side3)|| (side2==side3))
        {
            printf("Triangle is isosceles!");
        }
        else
        {
            printf("Triangle is scalene!");
        }
    }
    else
    {
        printf("Triangle is equilateral!");
    }
}
else
{
    printf("Input sides doesn't make a triangle!");
}
printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./scalene\ equilateral\ or\ isosceles
Name: Karthik Nair, Class: BCA1EA
Enter side 1: 34
Enter side 2: 34
Enter side 3: 34
Triangle is equilateral!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./scalene\ equilateral\ or\ isosceles
Name: Karthik Nair, Class: BCA1EA
Enter side 1: 23
Enter side 2: 5
Enter side 3: 2
Input sides doesn't make a triangle!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./scalene\ equilateral\ or\ isosceles
Name: Karthik Nair, Class: BCA1EA
Enter side 1: 34
Enter side 2: 55
Enter side 3: 32
Triangle is scalene!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./scalene\ equilateral\ or\ isosceles
Name: Karthik Nair, Class: BCA1EA
Enter side 1: 34
Enter side 2: 23
Enter side 3: 23
Triangle is isosceles!
karthik@cosmic:~/.../Binaries (compiled on Linux)$ █

```

17. Write a C program to find the types roots of a quadratic equation

```

// Write a C program to find the types roots of a quadratic equation

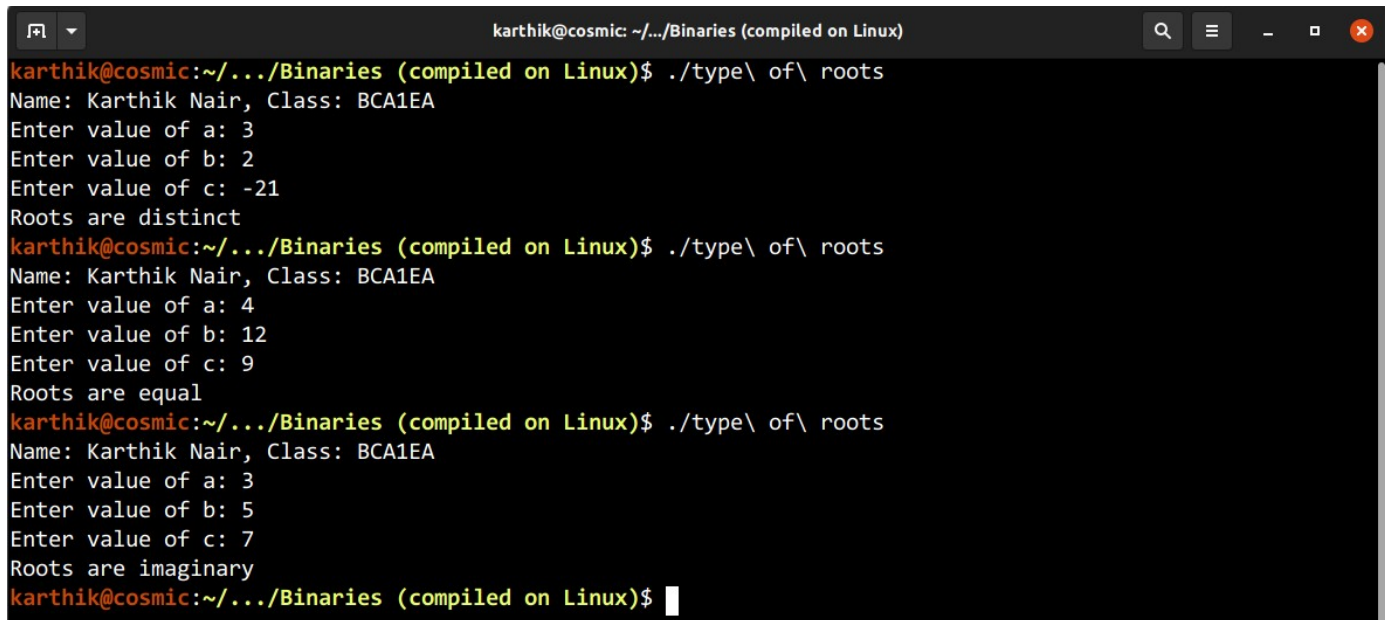
#include <stdio.h>

```

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a, b, c, d;
    printf("Enter value of a: ");
    scanf("%d", &a);
    printf("Enter value of b: ");
    scanf("%d", &b);
    printf("Enter value of c: ");
    scanf("%d", &c);
    d=((b*b)-(4*a*c));
    if (d>0)
    {
        printf("Roots are distinct");
    }
    else if (d==0)
    {
        printf("Roots are equal");
    }
    else
    {
        printf("Roots are imaginary");
    }
    printf("\n");
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./type\ of\ roots
Name: Karthik Nair, Class: BCA1EA
Enter value of a: 3
Enter value of b: 2
Enter value of c: -21
Roots are distinct
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./type\ of\ roots
Name: Karthik Nair, Class: BCA1EA
Enter value of a: 4
Enter value of b: 12
Enter value of c: 9
Roots are equal
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./type\ of\ roots
Name: Karthik Nair, Class: BCA1EA
Enter value of a: 3
Enter value of b: 5
Enter value of c: 7
Roots are imaginary
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

18. Write a C program to calculate profit or loss

```
// Write a C program to calculate profit or loss
```

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

```

int main()
{

```

```

printf("Name: Karthik Nair, Class: BCA1EA\n");
int cp, sp;
printf("Enter cost price: ");
scanf("%d", &cp);
printf("Enter sellings price: ");
scanf("%d", &sp);
if (sp>cp)
{
    printf("Profit of %d", sp-cp);
}
else if (sp<cp)
{
    printf("Loss of %d", cp-sp);
}
else
{
    printf("No profit or loss");
}
printf("\n");
}

```

```

karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./profit\ or\ loss
Name: Karthik Nair, Class: BCA1EA
Enter cost price: 56
Enter sellings price: 44
Loss of 12
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./profit\ or\ loss
Name: Karthik Nair, Class: BCA1EA
Enter cost price: 45
Enter sellings price: 47
Profit of 2
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./profit\ or\ loss
Name: Karthik Nair, Class: BCA1EA
Enter cost price: 45
Enter sellings price: 45
No profit or loss
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

19. Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:

Percentage $\geq 90\%$: Grade A
 Percentage $\geq 80\%$: Grade B
 Percentage $\geq 70\%$: Grade C
 Percentage $\geq 60\%$: Grade D
 Percentage $\geq 50\%$: Grade E
 Percentage $< 40\%$: Grade F

/*Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:

Percentage $\geq 90\%$: Grade A
 Percentage $\geq 80\%$: Grade B
 Percentage $\geq 70\%$: Grade C
 Percentage $\geq 60\%$: Grade D

```
Percentage >= 50% : Grade E
Percentage < 40% : Grade F */
```

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

```
int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    float mark1, mark2, mark3, mark4, mark5, percentage;
    printf("Marks are out of 100 \n");
    printf("Input marks in Physics: ");
    scanf("%f", &mark1);
    printf("Input marks in Chemistry: ");
    scanf("%f", &mark2);
    printf("Input marks in Mathematics: ");
    scanf("%f", &mark3);
    printf("Input marks in Biology: ");
    scanf("%f", &mark4);
    printf("Input marks in Computer: ");
    scanf("%f", &mark5);
    percentage=((mark1+mark2+mark3+mark4+mark5)/500)*100;
    printf("Percentage is %f \n", percentage);
    printf("Grade is ");
    if (percentage>=90)
    {
        printf("A");
    }
    else if (percentage>=80)
    {
        printf("B");
    }
    else if (percentage>=70)
    {
        printf("C");
    }
    else if (percentage>=60)
    {
        printf("D");
    }
    else if (percentage>=50)
    {
        printf("E");
    }
    else
    {
        printf("F");
    }
    printf("\n");
}
```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./grade\ calc
Name: Karthik Nair, Class: BCA1EA
Marks are out of 100
Input marks in Physics: 66
Input marks in Chemistry: 54
Input marks in Mathematics: 54
Input marks in Biology: 67
Input marks in Computer: 96
Percentage is 67.400002
Grade is D

```

20. Write a C program to input basic salary of an employee and calculate its Gross salary according to following:

Basic Salary <= 10000 : HRA = 20%, DA = 80%

Basic Salary <= 20000 : HRA = 25%, DA = 90%

Basic Salary > 20000 : HRA = 30%, DA = 95%

/*Write a C program to input basic salary of an employee and calculate its Gross salary according to following:

Basic Salary <= 10000 : HRA = 20%, DA = 80%

Basic Salary <= 20000 : HRA = 25%, DA = 90%

Basic Salary > 20000 : HRA = 30%, DA = 95% */

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    float HRA, DA, basic;
    printf("Enter Basic Salary: ");
    scanf("%f", &basic);
    if (basic<=10000)
    {
        DA=(0.8)*basic;
        HRA=(0.2)*basic;
    }
    else if (basic<=20000)
    {
        DA=(0.9)*basic;
        HRA=(0.25)*basic;
    }
    else
    {
        DA=(0.95)*basic;
        HRA=(0.3)*basic;
    }
    printf("Gross Salary is %f\n", basic+HRA+DA);
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./gross\ salary\ calc
Name: Karthik Nair, Class: BCA1EA
Enter Basic Salary: 24000
Gross Salary is 54000.000000
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./gross\ salary\ calc
Name: Karthik Nair, Class: BCA1EA
Enter Basic Salary: 12000
Gross Salary is 25800.000000
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./gross\ salary\ calc
Name: Karthik Nair, Class: BCA1EA
Enter Basic Salary: 8900
Gross Salary is 17800.000000
karthik@cosmic:~/.../Binaries (compiled on Linux)$ █

```

21. Write a C program to input electricity unit charges and calculate total electricity bill according to the given conditions:

For first 50 units Rs. 0.50/unit

For next 100 units Rs. 0.75/unit

For next 100 units Rs. 1.20/unit

For unit above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill

/*Write a C program to input electricity unit charges and calculate total electricity bill according to the given conditions:

For first 50 units Rs. 0.50/unit

For next 100 units Rs. 0.75/unit

For next 100 units Rs. 1.20/unit

For unit above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill*/

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

```
int main()
```

```
{
```

```
    printf("Name: Karthik Nair, Class: BCA1EA\n");
```

```
    float units, cost;
```

```
    printf("Enter the number of units: ");
```

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

```
    if (units<=50)
```

```
    {
```

```
        cost=0.5;
```

```
    }
```

```
    else if (units<=150)
```

```
    {
```

```
        cost=0.75;
```

```
    }
```

```
    else if (units<=250)
```

```
    {
```

```
        cost=1.2;
```

```
    }
```

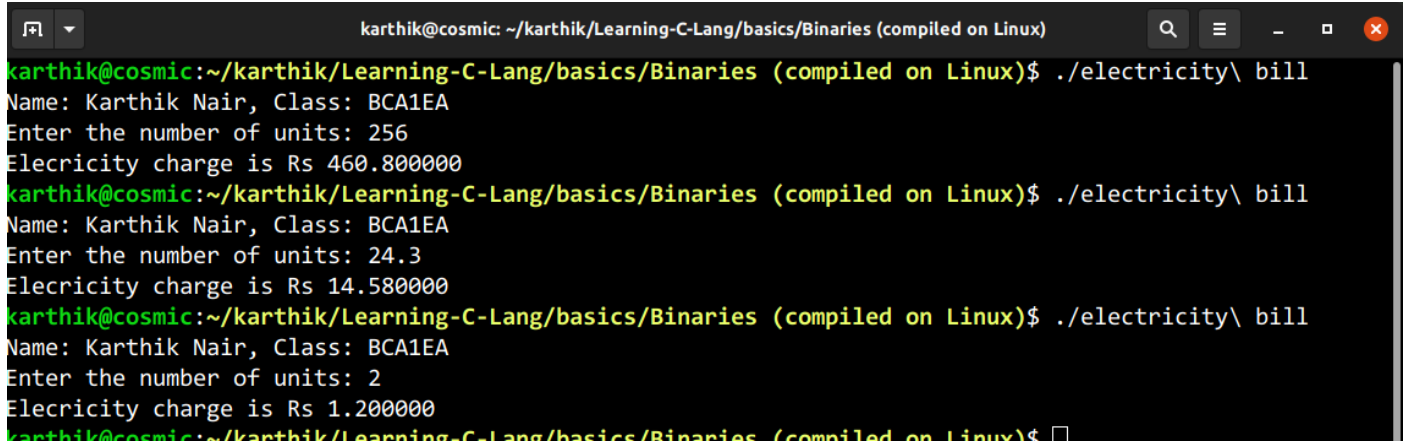
```
    else
```

```
    {
```

```

        cost=1.5;
    }
    printf("Elecricity charge is Rs %f", (0.2*(units*cost))+(units*cost));
    printf("\n");
}

```



The screenshot shows a terminal window titled 'karthik@cosmic: ~/karthik/Learning-C-Lang/basics/Binaries (compiled on Linux)'. The user runs the command './electricity\ bill'. The program prompts for 'Name: Karthik Nair, Class: BCA1EA' and 'Enter the number of units: 256', then outputs 'Elecricity charge is Rs 460.800000'. This process is repeated for 24.3 units (output: Rs 14.580000) and 2 units (output: Rs 1.200000). The terminal text is as follows:

```

karthik@cosmic:~/karthik/Learning-C-Lang/basics/Binaries (compiled on Linux)$ ./electricity\ bill
Name: Karthik Nair, Class: BCA1EA
Enter the number of units: 256
Elecricity charge is Rs 460.800000
karthik@cosmic:~/karthik/Learning-C-Lang/basics/Binaries (compiled on Linux)$ ./electricity\ bill
Name: Karthik Nair, Class: BCA1EA
Enter the number of units: 24.3
Elecricity charge is Rs 14.580000
karthik@cosmic:~/karthik/Learning-C-Lang/basics/Binaries (compiled on Linux)$ ./electricity\ bill
Name: Karthik Nair, Class: BCA1EA
Enter the number of units: 2
Elecricity charge is Rs 1.200000
karthik@cosmic:~/karthik/Learning-C-Lang/basics/Binaries (compiled on Linux)$ █

```

22. Display counting from 1 to 100 using while loop

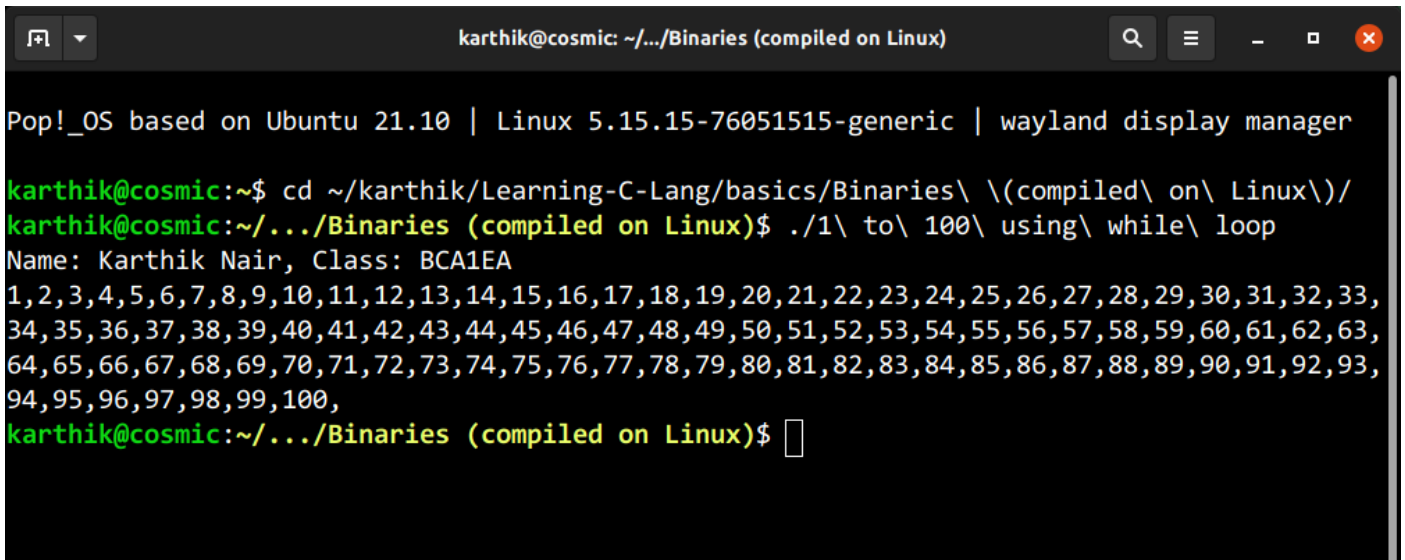
// Display counting from 1 to 100 using while loop

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int start=1, end=100;
    while (start<=end)
    {
        printf("%d,", start);
        start++;
    }
    printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
Pop!_OS based on Ubuntu 21.10 | Linux 5.15.15-76051515-generic | wayland display manager

karthik@cosmic:~$ cd ~/karthik/Learning-C-Lang/basics/Binaries\ \((compiled\ on\ Linux\)/
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./1\ to\ 100\ using\ while\ loop
Name: Karthik Nair, Class: BCA1EA
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,
34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,
64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,
94,95,96,97,98,99,100,
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

23. Display counting from 100 to 1 using while loop

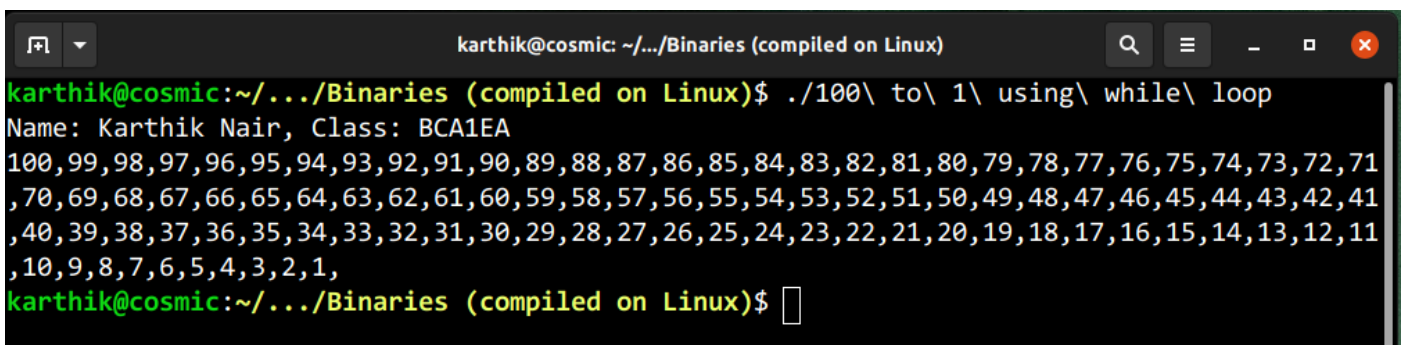
```

// Display counting from 100 to 1 using while loop

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int start=100, end=1;
    while (start>=end)
    {
        printf("%d,", start);
        start--;
    }
    printf("\n");
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./100\ to\ 1\ using\ while\ loop
Name: Karthik Nair, Class: BCA1EA
100,99,98,97,96,95,94,93,92,91,90,89,88,87,86,85,84,83,82,81,80,79,78,77,76,75,74,73,72,71
,70,69,68,67,66,65,64,63,62,61,60,59,58,57,56,55,54,53,52,51,50,49,48,47,46,45,44,43,42,41
,40,39,38,37,36,35,34,33,32,31,30,29,28,27,26,25,24,23,22,21,20,19,18,17,16,15,14,13,12,11
,10,9,8,7,6,5,4,3,2,1,
karthik@cosmic:~/.../Binaries (compiled on Linux)$

```

24. Display counting from 1 to n using while loop

```

// Display counting from 1 to n using while loop

#include <stdio.h>

```

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a=1, n;
    printf("Enter value of n: ");
    scanf("%d", &n);
    while (a<=n)
    {
        printf("%d,", a);
        a++;
    }
    printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./1\ to\ n\ using\ while\ loop
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 12
1,2,3,4,5,6,7,8,9,10,11,12,

```

25. Display counting from n to 1 using while loop

```
// Display counting from n to 1 using while loop
```

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a=1, n;
    printf("Enter value of n: ");
    scanf("%d", &n);
    while (a<=n)
    {
        printf("%d,", n);
        n--;
    }
    printf("\n");
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./n\ to\ 1\ using\ while\ loop
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 34
34,33,32,31,30,29,28,27,26,25,24,23,22,21,20,19,18,17,16,15,14,13,12,11,10,9,8,7,6,5,4,3,2,1,

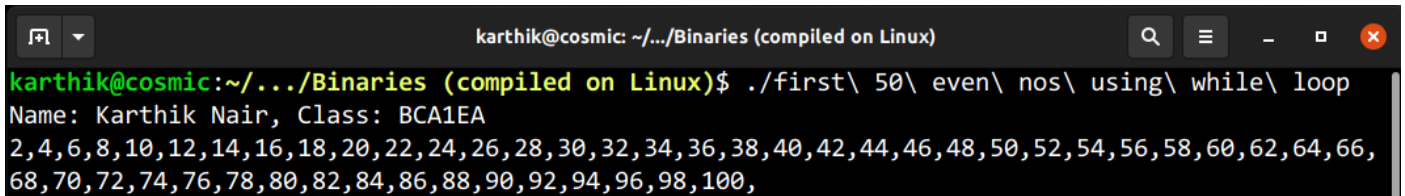
```

26. Display first 50 even nos. Using while loop

```
// Display first 50 even nos. Using while loop
```

```
#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a=2, n=100;
    while (a<=n)
    {
        printf("%d,", a);
        a+=2;
    }
    printf("\n");
}
```



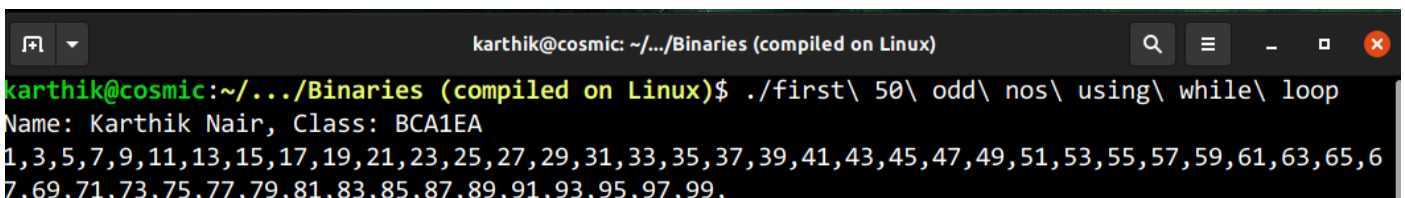
```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./first\ 50\ even\ nos\ using\ while\ loop
Name: Karthik Nair, Class: BCA1EA
2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,
68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98,100,
```

27. Display first 50 odd nos. Using while loop

```
// Display first 50 odd nos. Using while loop
```

```
#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a=1, n=99;
    while (a<=n)
    {
        printf("%d,", a);
        a+=2;
    }
    printf("\n");
}
```



```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./first\ 50\ odd\ nos\ using\ while\ loop
Name: Karthik Nair, Class: BCA1EA
1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59,61,63,65,6
7,69,71,73,75,77,79,81,83,85,87,89,91,93,95,97,99,
```

28. Display sum of first 50 even nos. Using while loop

```
// Display sum of first 50 even nos. Using while loop
```

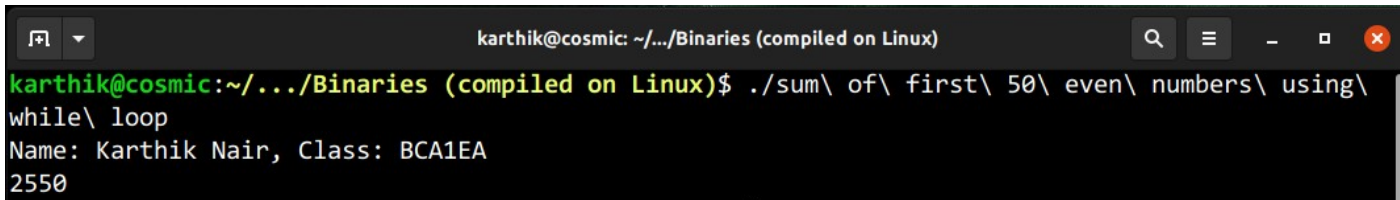
```
#include <stdio.h>
```

```
int main()
```

```

{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a=2, n=100, sum=0;
    while (a<=n)
    {
        sum+=a;
        a+=2;
    }
    printf("%d\n", sum);
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./sum\ of\ first\ 50\ even\ numbers\ using\
while\ loop
Name: Karthik Nair, Class: BCA1EA
2550

```

29. Display sum of first 50 odd nos. Using while loop

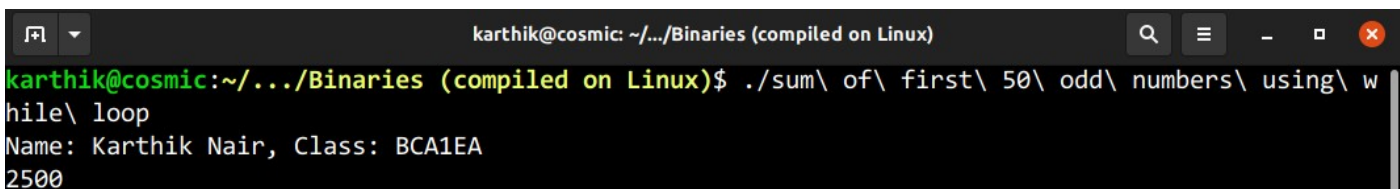
// Display sum of first 50 odd nos. Using while loop

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a=1, n=99, sum=0;
    while (a<=n)
    {
        sum+=a;
        a+=2;
    }
    printf("%d\n", sum);
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./sum\ of\ first\ 50\ odd\ numbers\ using\ w
hile\ loop
Name: Karthik Nair, Class: BCA1EA
2500

```

30. Display first 50 multiples of 7 Using while loop

// Display first 50 multiples of 7 Using while loop

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

```

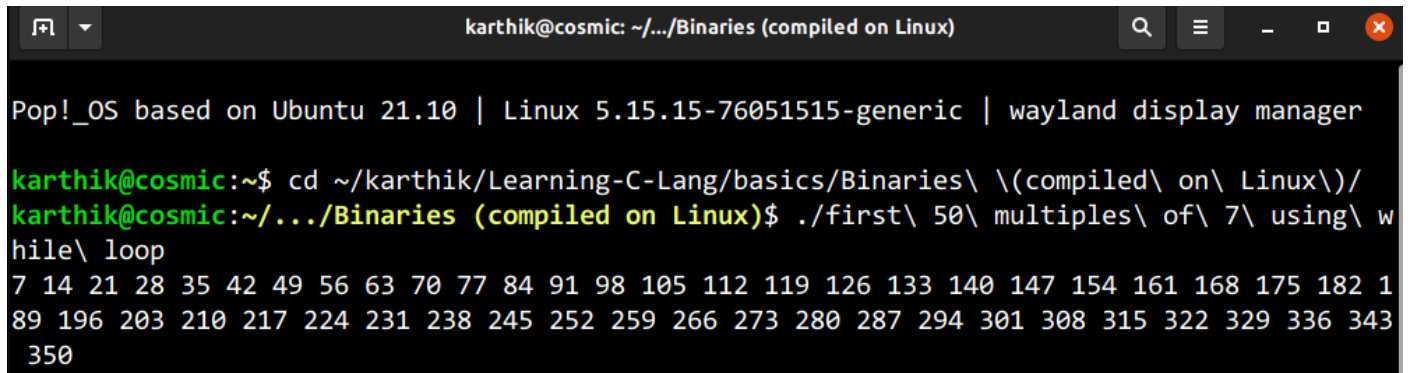
int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int count=1, a=7;

```

```

while (count<=50)
{
    printf("%d ",a);
    a+=7;count++;
}
printf("\n");
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
Pop!_OS based on Ubuntu 21.10 | Linux 5.15.15-76051515-generic | wayland display manager
karthik@cosmic:~$ cd ~/karthik/Learning-C-Lang/basics/Binaries\ \ (compiled\ on\ Linux\)/
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./first\ 50\ multiples\ of\ 7\ using\ w
hile\ loop
7 14 21 28 35 42 49 56 63 70 77 84 91 98 105 112 119 126 133 140 147 154 161 168 175 182 1
89 196 203 210 217 224 231 238 245 252 259 266 273 280 287 294 301 308 315 322 329 336 343
350

```

31. Display sum of first n natural nos. Using while loop

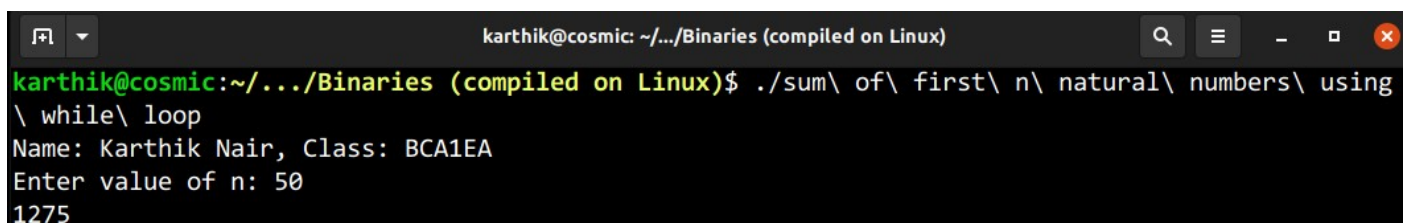
```
// Display sum of first n natural nos. Using while loop
```

```

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a=1, n, sum=0;
    printf("Enter value of n: ");
    scanf("%d",&n);
    while (a<=n)
    {
        sum+=a;
        a++;
    }
    printf("%d\n", sum);
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./sum\ of\ first\ n\ natural\ numbers\ using
\ while\ loop
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 50
1275

```

32. Display average marks of n number of students, take inputs from user Using while loop

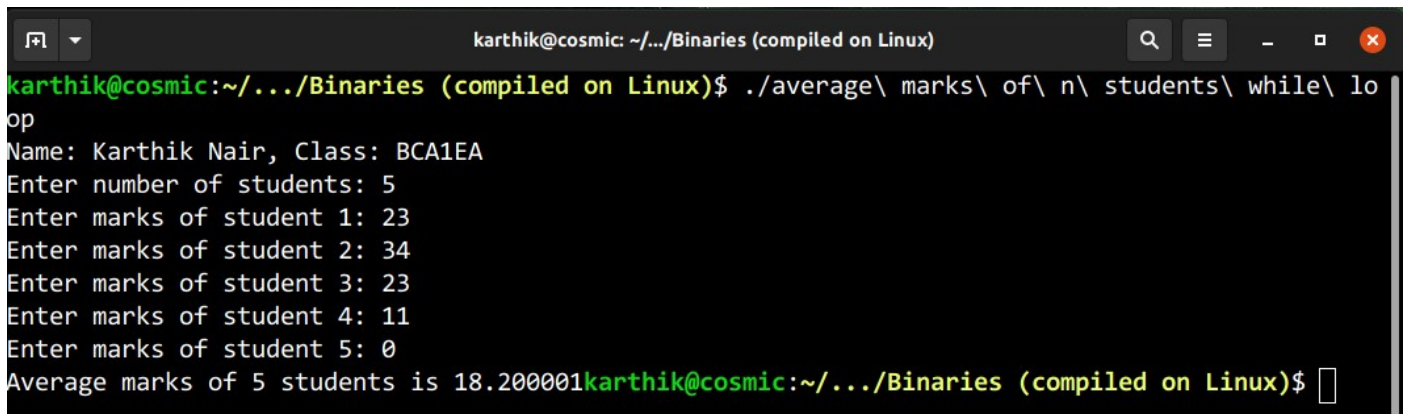
```
// Display average marks of n number of students, take inputs from user Using
while loop
```

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int n, marks, count=1; float sum=0;
    printf("Enter number of students: ");
    scanf("%d", &n);
    while (n>=count)
    {
        printf("Enter marks of student %d: ", count);
        scanf("%d", &marks);
        count++;sum+=marks;
    }
    printf("Average marks of %d students is %f", n, (sum/n));
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./average\ marks\ of\ n\ students\ while\ lo
op
Name: Karthik Nair, Class: BCA1EA
Enter number of students: 5
Enter marks of student 1: 23
Enter marks of student 2: 34
Enter marks of student 3: 23
Enter marks of student 4: 11
Enter marks of student 5: 0
Average marks of 5 students is 18.200001karthik@cosmic:~/.../Binaries (compiled on Linux)$ 

```

33. Display counting from 1 to 100 using for loop

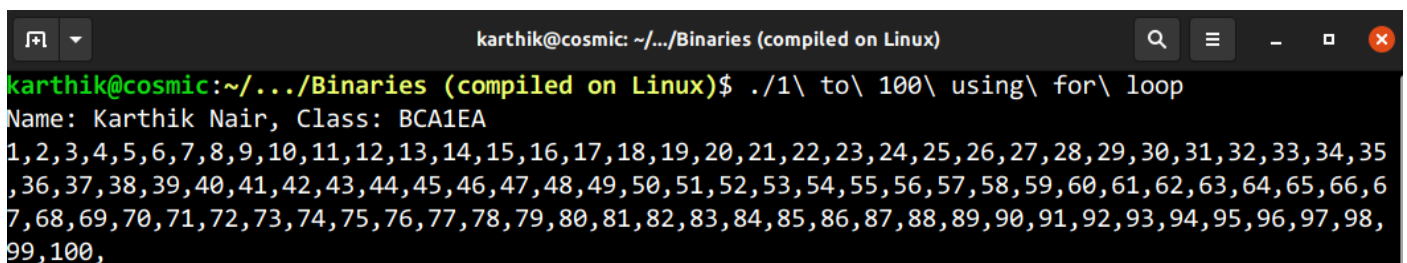
// Display counting from 1 to 100 using for loop

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i;
    for (i = 1; i <= 100; i++)
        printf("%d,", i);
    printf("\n");
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./1\ to\ 100\ using\ for\ loop
Name: Karthik Nair, Class: BCA1EA
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35
,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,6
7,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,
99,100,

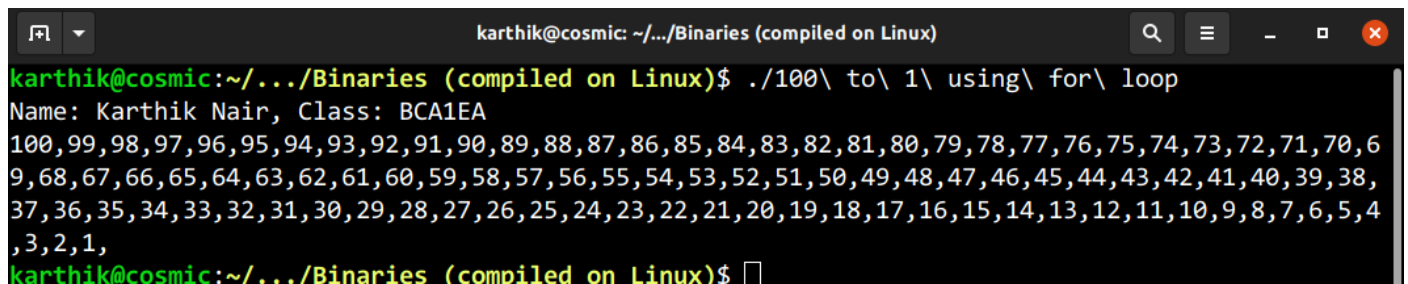
```

34. Display counting from 100 to 1 using for loop

```
// Display counting from 100 to 1 using for loop

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i;
    for (i = 100; i >= 1; i--)
        printf("%d,", i);
    printf("\n");
}
```



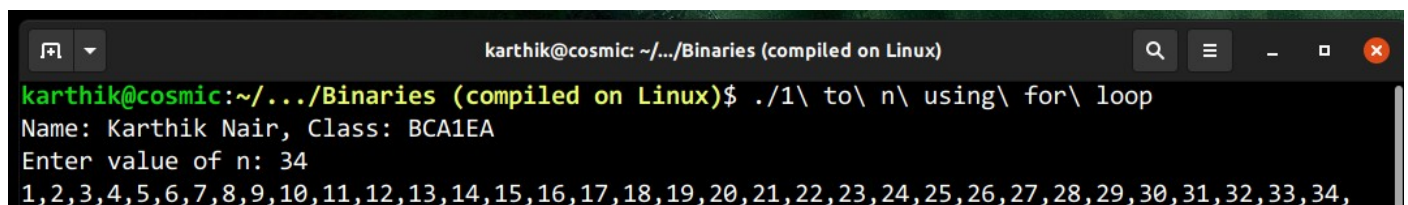
```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./100\ to\ 1\ using\ for\ loop
Name: Karthik Nair, Class: BCA1EA
100,99,98,97,96,95,94,93,92,91,90,89,88,87,86,85,84,83,82,81,80,79,78,77,76,75,74,73,72,71,70,6
9,68,67,66,65,64,63,62,61,60,59,58,57,56,55,54,53,52,51,50,49,48,47,46,45,44,43,42,41,40,39,38,
37,36,35,34,33,32,31,30,29,28,27,26,25,24,23,22,21,20,19,18,17,16,15,14,13,12,11,10,9,8,7,6,5,4
,3,2,1,
karthik@cosmic:~/.../Binaries (compiled on Linux)$
```

35. Display counting from 1 to n using for loop

```
// Display counting from 1 to n using for loop

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i=1,n;
    printf("Enter value of n: ");
    scanf("%d",&n);
    for (i;i<=n;i++)
    {
        printf("%d,",i);
    }
    printf("\n");
}
```



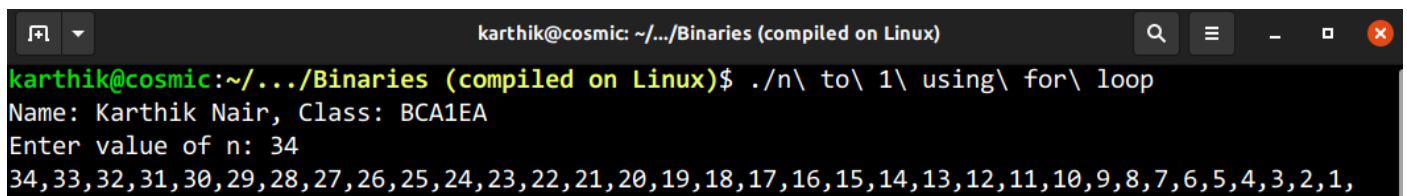
```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./1\ to\ n\ using\ for\ loop
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 34
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,
```

36. Display counting from n to 1 using for loop


```
// Display counting from n to 1 using for loop

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i=1,n;
    printf("Enter value of n: ");
    scanf("%d",&n);
    for (n;n>=i;n--)
    {
        printf("%d,",n);
    }
    printf("\n");
}
```



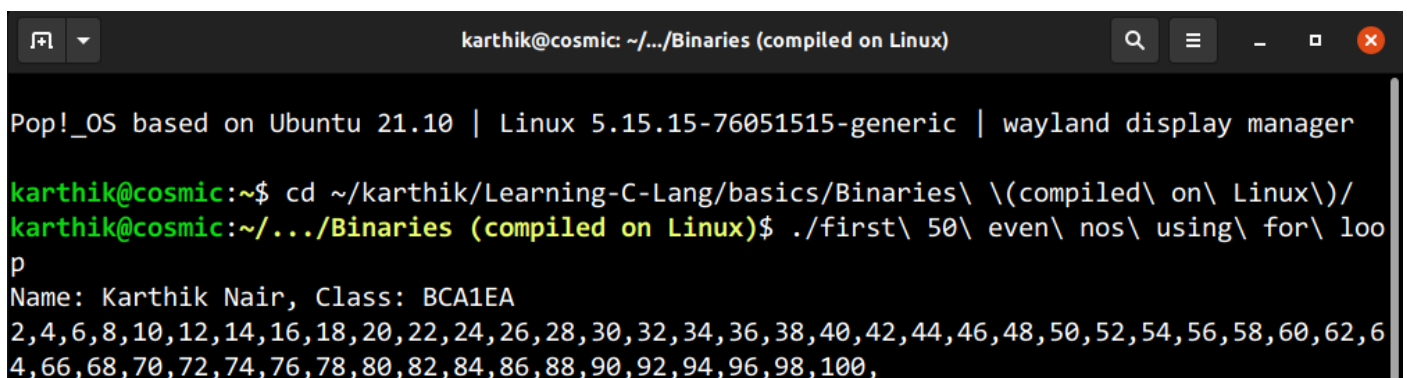
```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./n\ to\ 1\ using\ for\ loop
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 34
34,33,32,31,30,29,28,27,26,25,24,23,22,21,20,19,18,17,16,15,14,13,12,11,10,9,8,7,6,5,4,3,2,1,
```

37. Display first 50 even nos. Using for loop

```
// Display first 50 even nos. Using for loop

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i=2;
    for (i; i<=100; i+=2)
    {
        printf("%d,", i);
    }
    printf("\n");
}
```



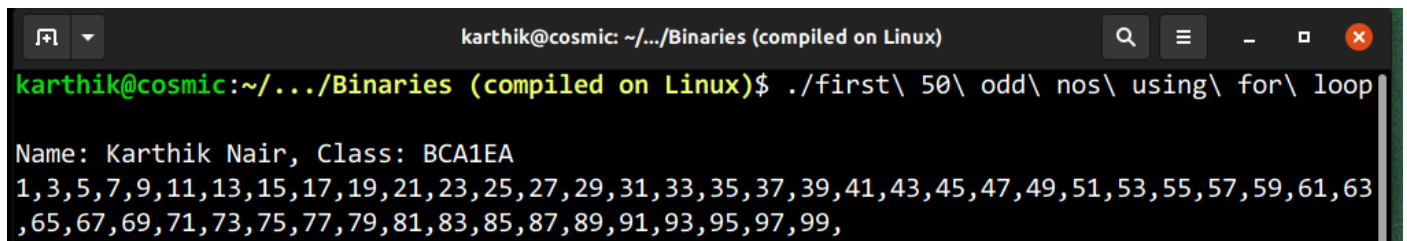
```
Pop!_OS based on Ubuntu 21.10 | Linux 5.15.15-76051515-generic | wayland display manager
karthik@cosmic:~$ cd ~/karthik/Learning-C-Lang/basics/Binaries\ \ (compiled\ on\ Linux\)/
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./first\ 50\ even\ nos\ using\ for\ loop
Name: Karthik Nair, Class: BCA1EA
2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98,100,
```

38. Display first 50 odd nos. Using for loop

```
// Display first 50 odd nos. Using for loop

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i=1;
    for (i; i<=99; i+=2)
    {
        printf("%d,", i);
    }
    printf("\n");
}
```



```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./first\ 50\ odd\ nos\ using\ for\ loop

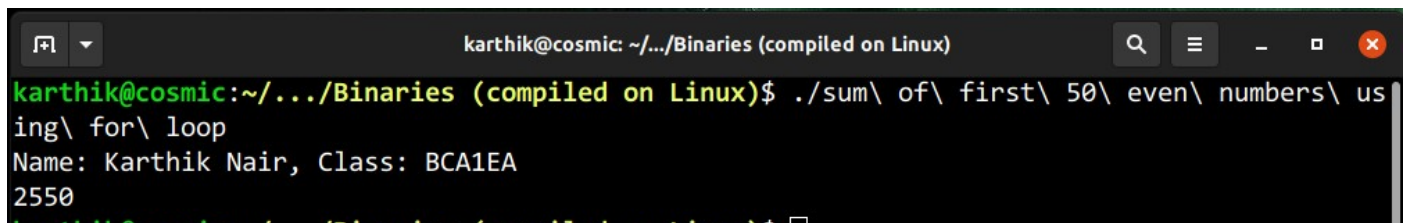
Name: Karthik Nair, Class: BCA1EA
1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59,61,63
,65,67,69,71,73,75,77,79,81,83,85,87,89,91,93,95,97,99,
```

39. Display sum of first 50 even nos. Using for loop

```
// Display sum of first 50 even nos. Using for loop

#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i=2,sum=0;
    for (i;i<=100;i+=2)
    {
        sum+=i;
    }
    printf("%d\n",sum);
}
```



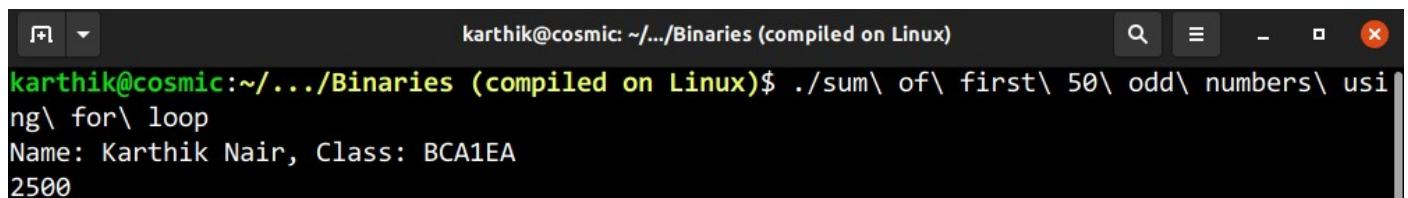
```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./sum\ of\ first\ 50\ even\ numbers\ us
ing\ for\ loop
Name: Karthik Nair, Class: BCA1EA
2550
```

40. Display sum of first 50 odd nos. Using for loop

```
// Display sum of first 50 odd nos. Using for loop
```

```
#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i=1,sum=0;
    for (i;i<=99;i+=2)
    {
        sum+=i;
    }
    printf("%d\n",sum);
}
```



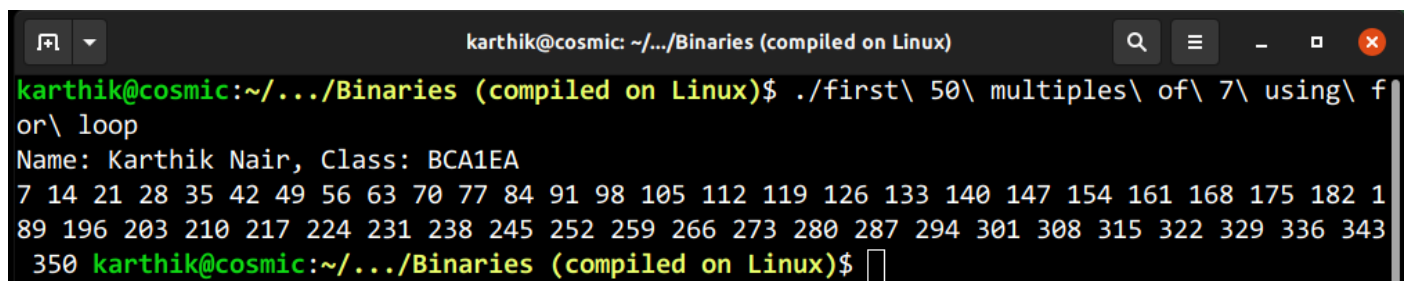
```
karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./sum\ of\ first\ 50\ odd\ numbers\ using\ for\ loop
Name: Karthik Nair, Class: BCA1EA
2500
```

41. Display first 50 multiples of 7 using for loop

```
// Display first 50 multiples of 7 using for loop
```

```
#include <stdio.h>

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int a=7;
    for (a; a<=(7*50); a+=7)
    {
        printf("%d ", a);
    }
}
```



```
karthik@cosmic: ~/.../Binaries (compiled on Linux)$ ./first\ 50\ multiples\ of\ 7\ using\ for\ loop
Name: Karthik Nair, Class: BCA1EA
7 14 21 28 35 42 49 56 63 70 77 84 91 98 105 112 119 126 133 140 147 154 161 168 175 182 189 196 203 210 217 224 231 238 245 252 259 266 273 280 287 294 301 308 315 322 329 336 343 350
karthik@cosmic: ~/.../Binaries (compiled on Linux)$
```

42. Display sum of first n natural nos. using for loop

```
// Display sum of first n natural nos. using for loop
```

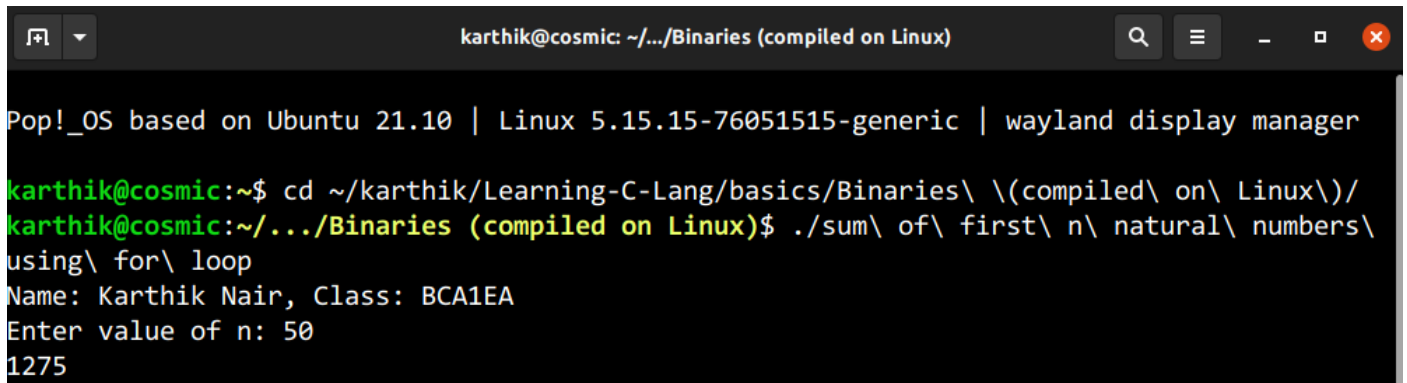
```
#include <stdio.h>
```

```
int main()
```

```

{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int n, sum=0;
    printf("Enter value of n: ");
    scanf("%d", &n);
    for (n; n>=1; n--)
    {
        sum+=n;
    }
    printf("%d\n", sum);
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
Pop!_OS based on Ubuntu 21.10 | Linux 5.15.15-76051515-generic | wayland display manager
karthik@cosmic:~$ cd ~/karthik/Learning-C-Lang/basics/Binaries\ \((compiled\ on\ Linux\)/
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./sum\ of\ first\ n\ natural\ numbers\
using\ for\ loop
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 50
1275

```

43. Display average marks of n number of students, take inputs from user using for loop

// Display average marks of n number of students, take inputs from user using for loop

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int n, marks, i=1;
    float sum=0;
    printf("Enter the number of students: ");
    scanf("%d", &n);
    for (i; n>=i; i++)
    {
        printf("Enter marks of student %d: ", i);
        scanf("%d", &marks);
        sum += marks;
    }
    printf("Average marks of %d students is %f\n", n, sum/n);
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./average\ marks\ of\ n\ students\ for\
loop
Name: Karthik Nair, Class: BCA1EA
Enter the number of students: 5
Enter marks of student 1: 23
Enter marks of student 2: 34
Enter marks of student 3: 23
Enter marks of student 4: 11
Enter marks of student 5: 0
Average marks of 5 students is 18.200001

```

44. Display the following pattern on screen: (Up to n rows)

```

*
**
***

```

/*Display the following pattern on screen: (Up to n rows)

```

*
**
****/

```

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i, n, j;
    printf("Enter value of n: ");
    scanf("%d", &n);
    for (i=1; i<=n; i++)
    {
        for (j=1; j<=i; j++)
        {
            printf("*");
        }
        printf("\n");
    }
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./pattern1
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 6
*
**
***
****
*****
*****

```

45. Display the following pattern on screen: (Up to n rows)

```

1
1 2
1 2 3
1 2 3 4 ...

```

/*Display the following pattern on screen: (Up to n rows)

```

1
1 2
1 2 3
1 2 3 4 ... */

```

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i, n, j;
    printf("Enter value of n: ");
    scanf("%d", &n);
    for (i=1; i<=n; i++)
    {
        for (j=1; j<=i; j++)
        {
            printf("%d", j);
        }
        printf("\n");
    }
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./pattern2
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 4
1
12
123
1234

```

46. Display the following pattern (Floyd's Triangle) on screen: (Up to n rows)

```

1
2 3
4 5 6
7 8 9 10...

```

```

/*Display the following pattern (Floyd's Triangle) on screen: ( Up to n rows)
1
2 3
4 5 6
7 8 9 10... */

```

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i=1, j=1, n=1, r;
    printf("Enter value of n: ");
    scanf("%d", &r);
    for (i=1; i<=r; i++)
    {
        for (j=1; j<=i; j++)
        {
            printf("%d ", n);
            n++;
        }
        printf("\n");
    }
}

```



```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./pattern3
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 7
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
16 17 18 19 20 21
22 23 24 25 26 27 28

```

47. Display the following pattern on screen: (Up to n rows)

```

*****
****
***
**
*

```

/*Display the following pattern on screen: (Up to n rows)

```

*****
****
***
**
*

```

*/

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

```
int main()
```

```

{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i, n, j;
    printf("Enter value of n: ");
    scanf("%d", &n);
    for (n; i<=n; n--)
    {
        for (j=1; j<=n; j++)
        {
            printf("*");
        }
        printf("\n");
    }
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./pattern4
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 5
*****
****
***
**
*

```

48. Display the following pattern on screen: (Up to n rows)

```

1 2 3 4 5
1 2 3 4
1 2 3
1 2
1

```

/*Display the following pattern on screen: (Up to n rows)

```

1 2 3 4 5
1 2 3 4
1 2 3
1 2
1

```

*/

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

```
int main()
```

```
{
```

```
    printf("Name: Karthik Nair, Class: BCA1EA\n");
```

```
    int i, n, j;
```

```
    printf("Enter value of n: ");
```

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

```
    for (i=1; i<=n; n--)
```

```
    {
```

```
        for (j=1; j<=n; j++)
```

```
        {
```

```
            printf("%d", j);
```

```
        }
```

```
        printf("\n");
```

```
    }
```

```
}
```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./pattern5
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 5
12345
1234
123
12
1

```

49. Display the following pattern on screen: (Up to n rows)

```

A
B B
C C C
D D D D

```

/*Display the following pattern on screen: (Up to n rows)

```

A
B B
C C C
D D D D*/

```

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

```

int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i=1,j=1,n;
    char a='A';
    printf("Enter value of n: ");
    scanf("%d",&n);
    for (i=1;i<=n;i++)
    {
        for (j=1; j<=i; j++)
        {
            printf("%c ", a);

        }
        a++;
        printf("\n");
    }
}

```

```

karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./pattern6
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 6
A
B B
C C C
D D D D
E E E E E
F F F F F F

```

50. Display the following pattern on screen (inverted full pyramid): (Up to n rows)

```

* * * * *
 * * * * *
  * * * *
   * * *
    *

```

/*50. Display the following pattern on screen(inverted full pyramid): (Up to n n)

```

* * * * *
 * * * * *
  * * * *
   * * *
    *

```

*/

```

#include <stdio.h>
int main()
{
    printf("Name: Karthik Nair, Class: BCA1EA\n");
    int i,j,n,k,m=1;
    printf("Enter value of n: ");
    scanf("%d", &n);
    for (i=n;i >= 1;i--)
    {
        for (j=1;j<=m;j++)
        {
            printf(" ");
        }
        for (k=1;k<=(2*i-1);k++)
        {
            printf("* ");
        }
        m++;
        printf("\n");
    }
}

```

```
karthik@cosmic: ~/.../Binaries (compiled on Linux)
karthik@cosmic:~/.../Binaries (compiled on Linux)$ ./pattern7
Name: Karthik Nair, Class: BCA1EA
Enter value of n: 6
* * * * *
 * * * * *
  * * * *
   * * *
    * *
     *
      *
```