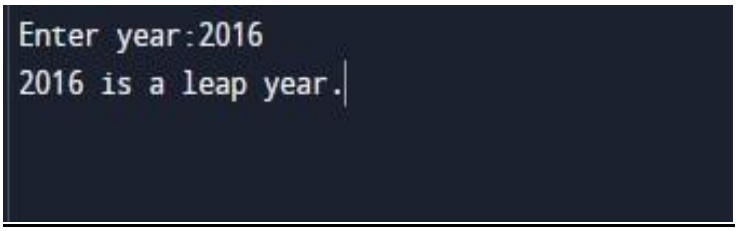
Name: Mayank Wankhede **Division**: D2A
Roll no: 65 **A.Y**: 2022-23

b. Write a program to check whether the entered year is a leap year or not.

INPUT CODE:

```
#include<stdio.h> int
main()
{    int
n;
   printf("Enter year:");
scanf("%d" ,&n);
   (n%4==0 && n%100!=0)?printf("%d is a leap year.",n):(n%400==0)?printf("%d is a
leap     year.",n):printf("%d is not a leap year.",n);     return(0);
}
```

OUPUT:



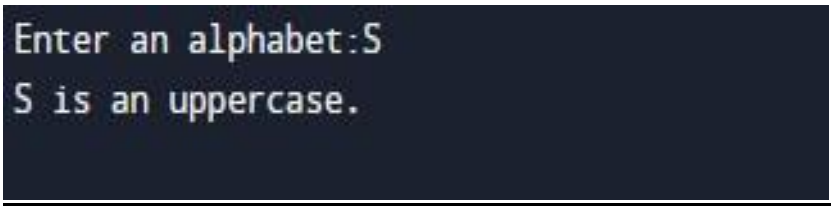
Name: Mayank Wankhede **Division**: D2A
Roll no: 65 **A.Y**: 2022-23

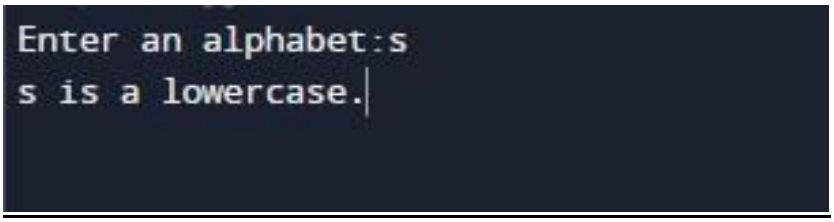
a. Write a program to check whether the character entered through keyboard is a lowercase alphabet or not.

INPUT CODE:

```
#include<stdio.h>
int main()
{      char
ch;
     printf("Enter an alphabet:");
scanf("%c" , &ch);
     (ch>='A' && ch<='Z')?printf("%c is an uppercase." , ch):(ch>='a' && ch<='z')?printf("%c
is a lowercase." , ch):printf("%c is not an alphabet.", ch);       return(0);
}
```

OUTPUT:





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Roll no: 65
A.Y: 2022-23

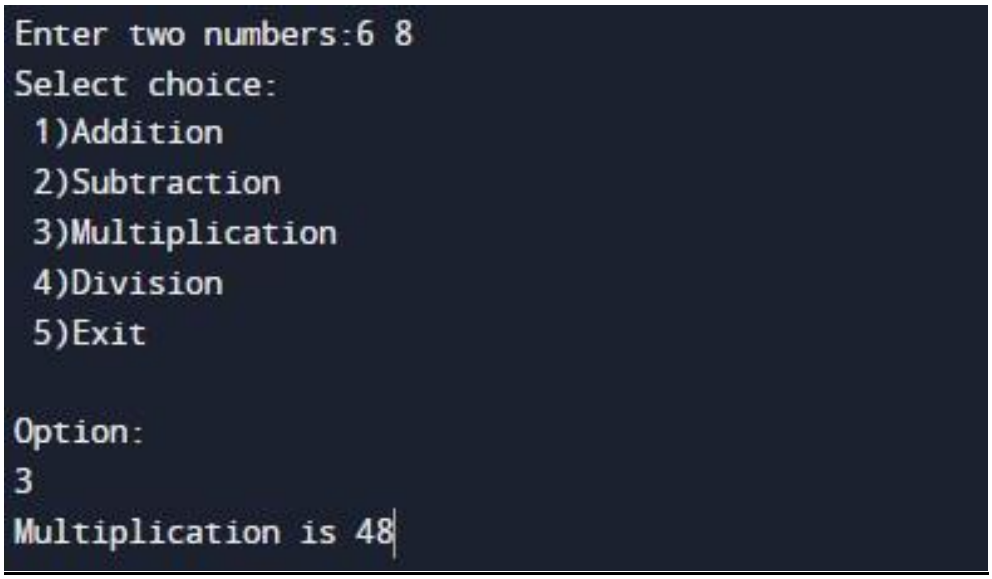
c. Write a program to design a simple interactive calculator(by switch case).

INPUT CODE:

```
#include<stdio.h>
int main()
{
    int a,b,option;
    printf("\nEnter two numbers:");
scanf("%d %d" , &a,&b);
printf("\n\nSelect choice:\n");
printf(" 1)Addition\n");      printf("
2)Subtraction\n");      printf("
3)Multiplication\n");      printf("
4)Division\n");      printf("
5)Exit\n");
printf("\nOption:\n");
    scanf("%d" , &option);

    switch(option)
    {
case 1:
        printf("Addition is %d" , (a+b));
break;        case 2:
        printf("Subtraction is %d" , (a-b));
break;        case 3:
        printf("Multiplication is %d" , (a*b));
break;        case 4:
        printf("Division is %d" , (a/b));
break;        default:
printf("Invalid choice.");
        break;
    }
    return(0);
}
```

OUTPUT:


Enter two numbers:6 8
Select choice:
1)Addition
2)Subtraction
3)Multiplication
4)Division
5)Exit
Option:
3
Multiplication is 48

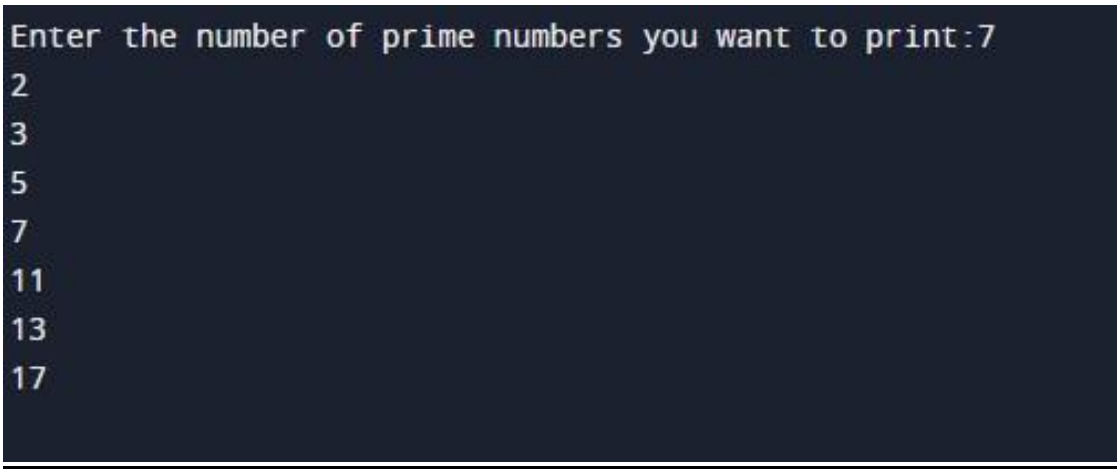
Name: Mayank Wankhede **Division**: D2A
Roll no: 65 **A.Y**: 2022-23

a. Write a program to print first n prime numbers.

INPUT CODE:

```
#include<stdio.h> void
main()
{
   int n,num,deno;
   printf("Enter the number of prime numbers you want to
print:");    scanf("%d" , &n);    num=2;    while(n!=0)
   {
        deno=2;
while(num%deno!=0)
         {
deno++;
         }
        if(num==deno)
         {
            printf("\n%d" , num);
            n--;
         }
            num++;
    }
}
```

OUTPUT:


Enter the number of prime numbers you want to print:7
2
3
5
7
11
13
17

Name: Mayank Wankhede **Division**: D2A
Roll no: 65 **A.Y**: 2022-23

c. Write a program to print the following pattern:

```
    *

  *  *

*  *  *  *

  *  *  *
```

INPUT CODE:

```
#include<stdio.h>
int main()
{     int
i,j,k;
    for(i=1;i<=4;i++)
    {
          for(j=1;j<=4-i;j++)
          {
                printf(" ");
          }
          for(k=1;k<=i;k++)
          {
                printf("* ");
          }
          printf("\n");
    }
    return(0);
}
```

OUTPUT:


*
* *
* * *
* * * *
...Program finished with exit code 0
Press ENTER to exit console.

Name: Mayank Wankhede **Division**: D2A
Roll no: 65 **A.Y**: 2022-23

b. Write a program to print all three-digit Armstrong numbers.

INPUT CODE:

```
#include <stdio.h> int
main()
{
   int num, i, digit, sum;
   printf("Three-digit Armstrong numbers are:   ");
   for (i = 100; i < 1000; i++)
      {
            num = i;
sum = 0;              while
(num>0)
      {
             digit = num % 10;
sum += digit * digit * digit;
             num=num/10;
      }
      if (sum == i)
      {
             printf("%d\t", i);
      }
      }
    return(0);
}
```

OUTPUT:

```
Three-digit Armstrong numbers are:  153 370 371 407
```