

Name: Mayank Wankhede
Roll no: 65

Division: D2A
A.Y: 2022-23

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

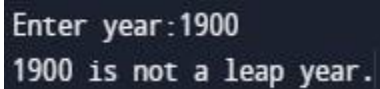
INPUT CODE:

```
#include<stdio.h> int
main()
{   int
n;

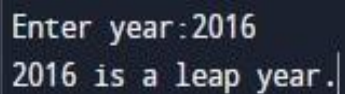
    printf("Enter year:");
scanf("%d" ,&n);

    (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);
}
```

OUTPUT:

A screenshot of a terminal window showing the program's output. The first line is "Enter year:1900" and the second line is "1900 is not a leap year." with a cursor at the end.

```
Enter year:1900
1900 is not a leap year.
```

A screenshot of a terminal window showing the program's output. The first line is "Enter year:2016" and the second line is "2016 is a leap year." with a cursor at the end.

```
Enter year:2016
2016 is a leap year.
```

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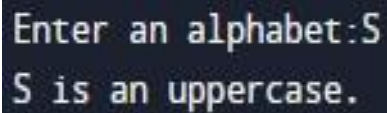
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- a. Write a program to check whether the character entered through keyboard is a lowercase alphabet or not.

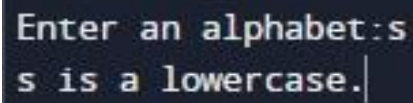
INPUT CODE:

```
#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:



Enter an alphabet:S
S is an uppercase.



Enter an alphabet:s
s is a lowercase.

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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

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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
```

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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. 
```


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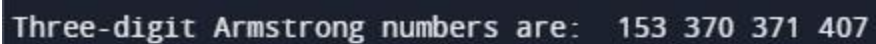
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b. Write a program to print all three-digit Armstrong numbers.

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:

A screenshot of a terminal window showing the output of the program. The text "Three-digit Armstrong numbers are: 153 370 371 407" is displayed in a light blue font on a dark background. The numbers are separated by tabs, which appear as single spaces in the image.

Three-digit Armstrong numbers are: 153 370 371 407

