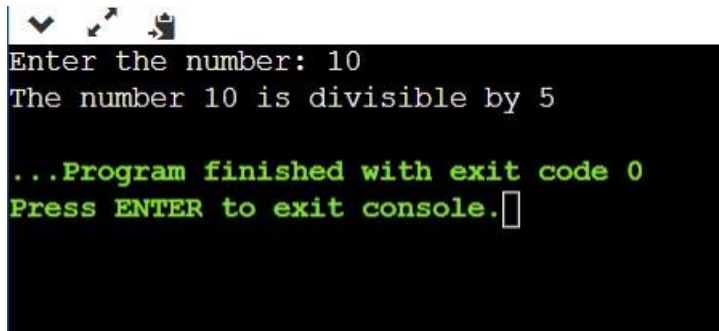


Computer Programming Lab – 2

1. Write a program to print if number is divisible by 3 or 5 or both. Input should be given by user.

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

```
int main()
{
    int num;
    printf("Enter the number: ");
    scanf("%d", &num);
    if (num%3 == 0 && num%5 == 0)
        printf("The number %d is divisible by both 3 and 5", num);
    else if (num%3 == 0)
        printf("The number %d is divisible by 3", num);
    else if (num%5 == 0)
        printf("The number %d is divisible by 5", num);
    else
        printf("The number %d is neither divisible by 3 nor 5", num);
    return 0;
}
```



```
Enter the number: 10
The number 10 is divisible by 5

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

2. Write a program to print to find largest of three given numbers. Input should be given by user.

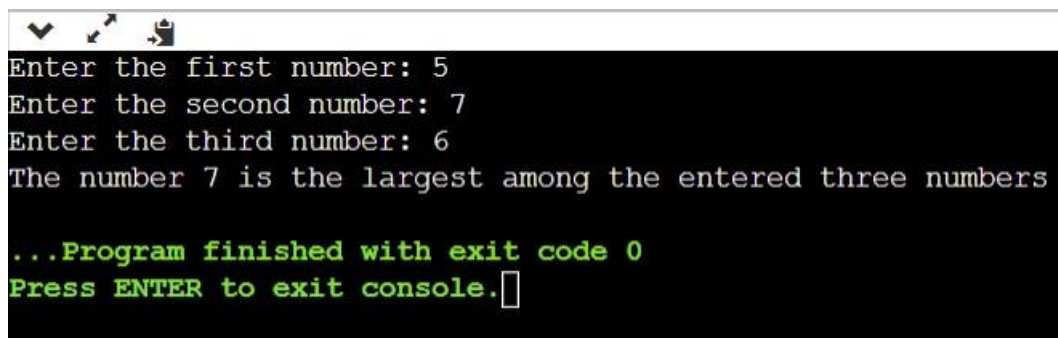
```
#include <stdio.h>
```

```
int main()
{
    int num1, num2, num3;
    printf("Enter the first number: ");
    scanf("%d", &num1);
```

```

printf("Enter the second number: ");
scanf("%d", &num2);
printf("Enter the third number: ");
scanf("%d", &num3);
if (num1>num2 && num1>num3)
printf("The number %d is the largest among the entered three numbers", num1);
else if (num2>num1 && num2>num3)
printf("The number %d is the largest among the entered three numbers", num2);
else
printf("The number %d is the largest among the entered three numbers", num3);
return 0;
}

```



```

Enter the first number: 5
Enter the second number: 7
Enter the third number: 6
The number 7 is the largest among the entered three numbers

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

```

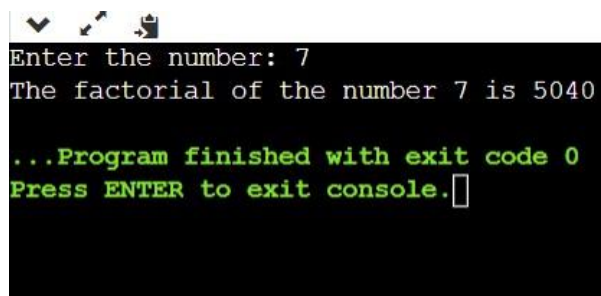
3. Write a program to find factorial of a number.

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

```

int main()
{
    int num, i, fact=1;
    printf("Enter the number: ");
    scanf("%d", &num);
    for (i=1; i<=num; i++)
    {
        fact = fact*i;
    }
    printf("The factorial of the number %d is %d", num, fact);
    return 0;
}

```



```

Enter the number: 7
The factorial of the number 7 is 5040

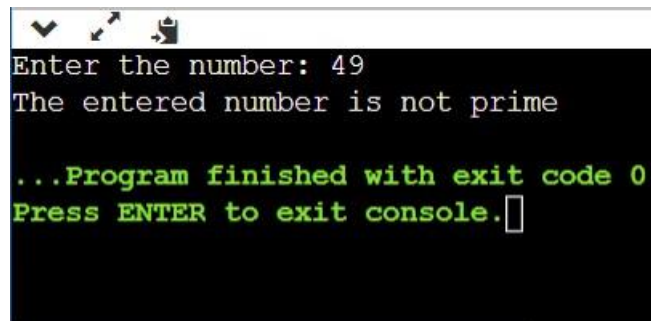
...Program finished with exit code 0
Press ENTER to exit console.

```

4. Write a program to check if a number is prime or not.

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

```
int main()
{
    int num, i, c=0;
    printf("Enter the number: ");
    scanf("%d", &num);
    if (num >=1)
    for (i=2; i<=num; i++)
    {
        if (num%i == 0)
        {
            printf("The entered number is not prime");
            c=1;
            break;
        }
    }
    if (c == 0)
        printf("The entered number is prime");
    return 0;
}
```

A screenshot of a terminal window with a black background and white text. The text shows the program's execution: 'Enter the number: 49', 'The entered number is not prime', and a green message '...Program finished with exit code 0'. Below this, it says 'Press ENTER to exit console.' with a cursor icon.

5. Write a C program to input electricity unit charges and calculate total electricity bill according to the given condition: 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. Take number of units from user

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

```
int main()
{
    int unit;
    float bill, cost;
```

```

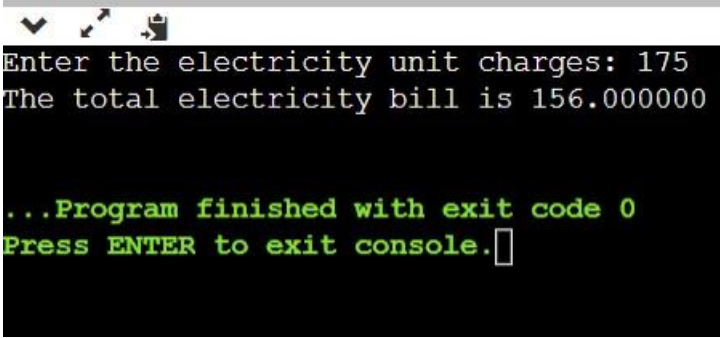
printf("Enter the electricity unit charges: ");
scanf("%d", &unit);
if (unit<=50)
{
bill = unit*0.50;
cost = bill + (bill*0.2);
printf("The total electricity bill is %f\n", cost);
}

else if (unit>50 && unit<=150)
{
bill = (50*0.5)+(unit-50)*0.75;
cost = bill + (bill*0.2);
printf("The total electricity bill is %f\n", cost);
}

else if (unit>150 && unit<=250)
{
bill = (50*0.5) + (100*0.75) + ((unit-150)*1.20);
cost = bill + (bill*0.2);
printf("The total electricity bill is %f\n", cost);
}

else if (unit>250)
{
bill = (50*0.5) + (100*0.75) + (100*1.2) + ((unit-250)*1.50);
cost = bill + (bill*0.2);
printf("The total electricity bill is %f\n", cost);
}
return 0;
}

```



```

Enter the electricity unit charges: 175
The total electricity bill is 156.000000

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

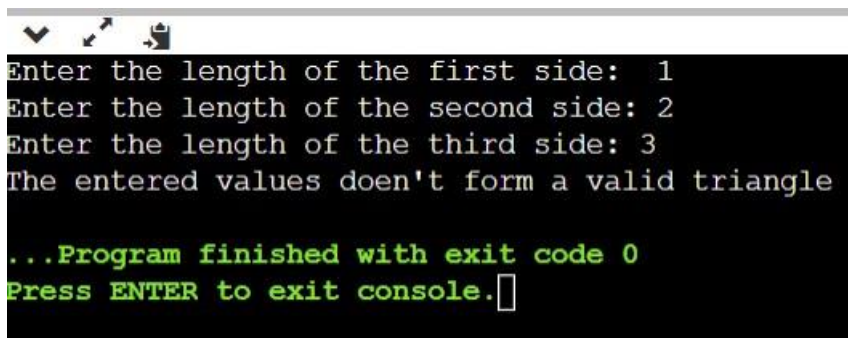
```

6. Write a program to check whether a triangle is valid. If valid, find if it is isosceles, equilateral, or scalene.

```
#include <stdio.h>

int main()
{
    float a,b,c;
    printf("Enter the length of the first side: ");
    scanf("%f", &a);
    printf("Enter the length of the second side: ");
    scanf("%f", &b);
    printf("Enter the length of the third side: ");
    scanf("%f", &c);
    if ( ((a+b)>c) && ((b+c)>a) )
    {
        if (a == b && b == c)
        {
            printf("It's a equilateral triangle");
        }
        else if ( a== b || b == c || c == a)
        {
            printf("It's a isosceles triangle");
        }
        else
        {
            printf("It's a scalene triangle");
        }
    }
    else
    printf("The entered values doesn't form a valid triangle");

    return 0;
}
```



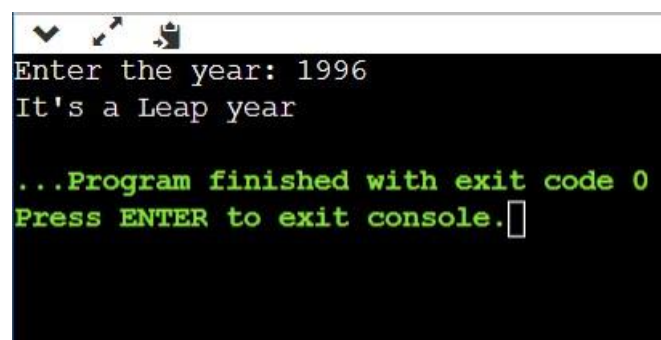
```
Enter the length of the first side: 1
Enter the length of the second side: 2
Enter the length of the third side: 3
The entered values doesn't form a valid triangle

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

7. Write a program to find whether a given year is leap or not. Year is provided by user. NOTE: A year is leap if it is divisible by 4 and not divisible by 100. A year is also leap if it is divisible by 400.

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

```
int main()
{
    int year;
    printf("Enter the year: ");
    scanf("%d", &year);
    if (year%400 == 0)
    {
        printf("It's a Leap year");
    }
    else if (year%4 == 0 && year%100 != 0)
    {
        printf("It's a Leap year");
    }
    else
    {
        printf("It's not a Leap year");
    }
    return 0;
}
```



```
Enter the year: 1996
It's a Leap year

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

Write program to print following patterns.

8.

```
1
12
123
1234
12345
```

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

```
int main()
```

```

{
    int i, j;
    for (i=1; i<=5; i++)
    {
        for (j=1; j<=i; j++)
        {
            printf("%d", j);
        }
        printf("\n");
    }

    return 0;
}

```



```

1
12
123
1234
12345

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

```

9.

```

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

```

```

#include <stdio.h>

int main()
{
    int i,j;
    for(i=1; i<=5; i++)
    {
        for(j=1; j<=5; j++)
        {
            if(i == 3 || j == 3)
                printf("*");
        }
    }
}

```

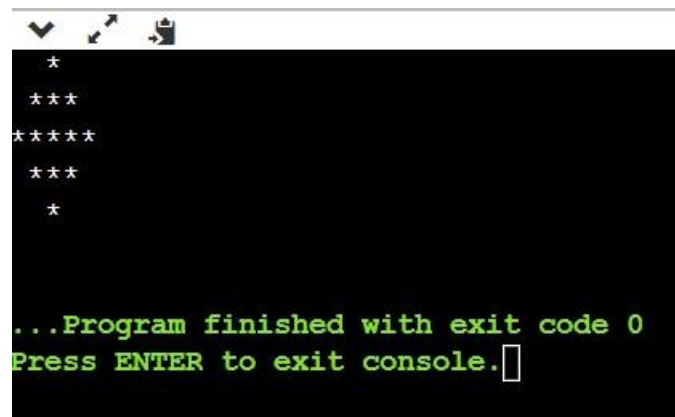
```

        else if ((i == 2 || i == 4) && (j == 4 || j == 2))
            printf("*");
        else
            printf(" ");
    }
    printf("\n");

}

return 0;
}

```



```

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

```

10.

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

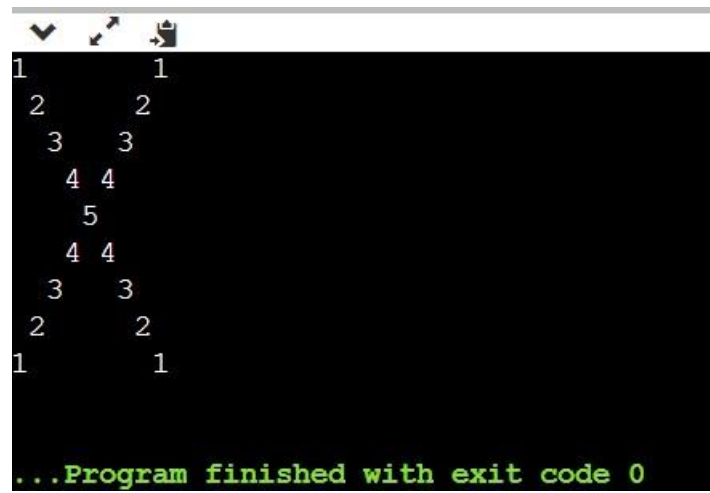
```

int main()
{
    int i,j,a;
    for(i=1; i<=9; i++){
        a = i;
        if (i>5)
            a = 10-i;
        for (j=1; j<=9; j++){
            if (i == j)
                printf("%d", a);
            else if (i+j == 10)
                printf("%d", a);
            else
                printf(" ");
        }
    }
}

```



```
printf("\n");  
}  
  
return 0;  
}
```



```
1      1  
2      2  
3      3  
4 4  
5  
4 4  
3      3  
2      2  
1      1  
  
...Program finished with exit code 0
```