WEEK 6:

Write an algorithm and flowchart to
find the factorial of a given

Algorithm:

Flowchart

Program:

```
#include<stdio.h>
int main()
{
        int n,i;
        long int fact=1;
        printf("Enter any number : ");
        scanf("%d&n);
        for(i=1;i<=n;i++)
        {
                fact=fact*i;   // factorial value
        }
        printf("Factorial of %d is %ld",n,fact);}
```

Output:

1. Write an algorithm and flowchart to find the given number is prime or not

Algorithm:

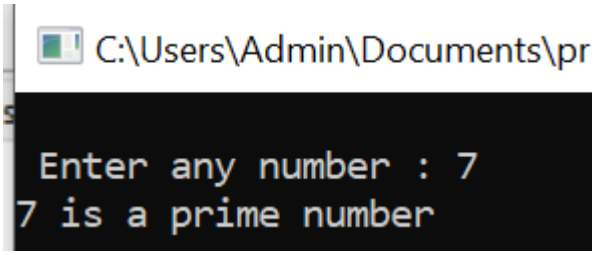
Flowchart:

Program:

```
#include<stdio.h>
int main()
{
        int n,i,flag=0;
        printf("\n Enter any number : ");
        scanf("%d",&n);
        if(n==1||n==0)
        {
                printf("%d is not a prime number",n);
        }
        Else    // prime number logic
        {
           for(i=2;i<=n/2;i++)
           {
                   if(n%i==0)   // if i is a factor of n
                      {
                              flag=1;
                        break;
                      }
           }
           if(flag==0)
           {
                   printf("%d is a prime number",n);
           }
```

```
        else
        {
                printf("%d is not a prime number",n);
        }
   }
}
```

Output:



2. **Write an algorithm and flow chart to compute the sin and cos series. Implement the program for the algorithm**

Algorithm:

Flow chart:

Program:

3. **Write an algorithm and flow chart to check whether the given number is palindrome or not?**

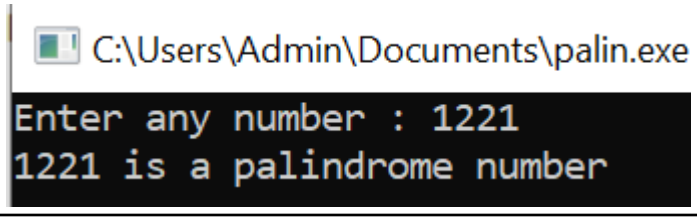
Algorithm:

Flow chart:

Program:

```
#include<stdio.h>
int main()
{
        int n,m,r,sum=0;
        printf("Enter any number : ");
        scanf("%d",&n);
        m=n;   //n value will be copied to m
        while(n!=0)
        {
                r=n%10;
                sum=(sum*10)+r;     // reverse of a number
                n=n/10;
        }
        if(sum==m)
        {
                printf("%d is a palindrome number",m);
        }
        else
        {
                printf("%d is not a palidrome number ",m);
        }
}
```

Output:



4. **Write an algorithm and flow chart to construct a pyramid of**

numbers. Implement a program
to the algorithm

Algorithm:

Flowchart:

Program:

```
#include<stdio.h>
int main()
{
        int n,i,j;
        printf("Enter the number of lines : ");
        scanf("%d",&n);
        for(i=1;i<=n;i++)
        {
                for(j=1;j<=i;j++)
                {
                        printf("%d ",j);
                }
                printf("\n");
        }
}
```

Output: