Assignment No.8

//Finding F from C.

```
#include<stdio.h>
 float calculate();
 void main()
 {
        float s;
        calculate();
        s=calculate();
        printf("%f",s);
}

float calculate()
        {
                float F,C;

            printf("Enter the value of Farnite=");
            scanf("%f",&F);

                        C=(F-32)*5.0/9.0;
                        return C;
        }
```

//inding area and perimeter of rectangle and circle

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

```
void calculateperi();
void calculatearea();

void main()
{

        calculateperi();
        calculatearea();

}
        void calculateperi()
        {
                int l,b,peri;
                printf("\nEnter the value of l=");
        scanf("%d",&l);
            printf("\nEnter the value of b=");
            scanf("%d",&b);
                peri=2*(l+b);
           printf("\nThe perimeter of rectangle is= %d",peri);

   }
    void  calculatearea()
   {
        int l,b,area;
     area=l*b;
     printf("\nThe area of rectangle is= %d",area);

         }
```

//Accept the three digit number from user and find the sum and reverse of the number

```
#include<stdio.h>
 void reverse();
 void sum();
 void main()
 {
          reverse();
          sum();

         }
         void reverse()
         {
                  int sum,num,n1,n2,n3;
          printf("Enter the number=");
          scanf("%d",&num);

          n1=num%10;
          num=num/10;

          n2=num%10;
          num=num/10;

          n3=num%10;
          num=num/1;
          printf("The reverse number is=%d,%d,%d",n1,n2,n3);



         }
         void sum()
```

```
        {
                int sum,n1,n2,n3;
          sum=n1+n2+n3;
          printf("\nThe sum of  number is %d",sum);


        }









        //Check  the given number is even or odd

#include<stdio.h>
int isprime();
int main()
 {
   int prime;
        prime=isprime();
        printf(" %d",prime);


   }
   int isprime()
   {
     int num;
     printf("Enter number which you want=");
          scanf("%d",&num);


          if(num%2==0)
           return 1;
```

```
            else
             return 0;
    }
```

//Calculating total salary based on basic

```
#include<stdio.h>
void basic_salary();
void total_salary();
void main()
 {

   basic_salary();
   total_salary();
  }

  void basic_salary()
  {
          int basic;
          float da,ta,hra;

          printf("Enter the value of basic=");
          scanf("%d",&basic);

          if(basic<=5000)
           {
                  da=(0.1*5000);
                  ta=(0.2*5000);
```

```
                hra=(0.2*5000);
        }
        else
        {
                da=(0.15*5000);
                ta=(0.25*5000);
                hra=(0.30*5000);
        }
         printf("\nThe value of da is= %f",da);
         printf("\nThe value of ta is= %f",ta);
         printf("\nThe value of hra is=%f",hra);
}

void total_salary()
{
      int da,ta,hra,salary;
        salary=da+ta+hra;
 printf("\nThe total salary is= %d",salary);
}
```

//Check the person is eligible for marriage or not

```
#include<stdio.h>
 int is_eligible();
 int main()
  {
        int eli;
         eli=is_eligible();
         printf("%d",eli);
```

```
}
int is_eligible()
{
        int male_age,female_age;

        printf("Enter the male_age=");
        scanf("%d",&male_age);

        printf("Ener the female_age=");
        scanf("%d",&female_age);

       if(male_age>=21 && female_age>=18)
        return 1;
        else
        return 0;
        }
```

2 Type

//Find price of item when discount is given

```
#include<stdio.h>
 void calculate_discount();
 void main()
 {
```

```
 calculate_discount();
}
void calculate_discount()
{
 int price,final_price,discount;
    printf("Enter the discount of price=");
    scanf("%d",&price);

     if((discount>=10) && (discount<=20))
      {
           printf("The price of item is=100");
      }
    else if((discount>=50) && (discount<=100))
          {
                printf("The price of item is=50");

              }
        else if(discount<=10)
            {
                printf("The price of item is=10");
```

```
            }

            else
             {
                printf("The price of item is
unaffrodable");
                    }
                }

//Find greatest number of three number

#include<stdio.h>
 int check_greaterNumber(int,int,int);
 int main()
 {
      int num1,num2,num3;
     printf("Enter the value of num1,num2,num3=");
     scanf("\n%d,\n%d,\n%d",&num1,&num2,&num3);

     int s;
```

```
        s=check_greaterNumber(num1,num2,num3);
    printf("%d",s);
 }

 int check_greaterNumber(int num1,int num2,int
num3)
 {

        if((num1>num2) && (num1>num3))
          return 1;

        else if((num2>num3) && (num2>num1))
           return 0;

        else
         return 2;

}
```

//Accept the three digit number from user and find the sum and reverse of the number using function

```
#include<stdio.h>
int calculateSum();
 int main()
 {
   int s;
       s=calculateSum();
       printf("\n%d",s);

 }
 int calculateSum()
 {

       int sum,num,n1,n2,n3;
       printf("Enter the number=");
       scanf("%d",&num);
```

```
        n1=num%10;
        num=num/10;

        n2=num%10;
        num=num/10;

        n3=num%10;
        num=num/1;
        printf("The reverse number
is=%d,%d,%d",n1,n2,n3);

        sum=n1+n2+n3;
        return sum;
        }

//Check  the given number is even or odd

#include<stdio.h>
int isprime();
```

```
int main()
 {
   int prime;
       prime=isprime();
       printf(" %d",prime);


   }
   int isprime()
   {
     int num;
     printf("Enter number which you want=");
          scanf("%d",&num);


          if(num%2==0)
           return 1;
          else
           return 0;
    }
```

//Accept the price ask the user if he is a student use say yes or no if student purchased more than 500 then discount is 20%

//if he is not student then the base purchased are more than 600 discount 15% otherwise no discount.

```
#include<stdio.h>
#include<string.h>
float calculateDiscount();
 int main()
 {
       float d;
      d=calculateDiscount();
      printf("%f",d);
 }

 float calculateDiscount()
 {
  float discount;
```

```
   float price,dicount=0,
   finaldiscount;
   char student[10];
   printf("Enter the total purchase amount: ");
   scanf("%f",&price);
 getchar();

   printf("are you a student/(y/n)= \n");
fgets(student,sizeof(student),stdin);
student[strcmp(student,"\n")]=0;

if(strcmp(student,"yes")==0)
{
   if(price>500)
     discount=0.20*price;
   else
     discount=0.10*price;
   }
   else if(strcmp(student,"no")==0)
   {
```

```
            if(price>600)
              dicount=0.15*price;
            else
              printf("Invalid input for students ");
              return;
        }
        finaldiscount=price-discount;
        printf("Discount applied: %f\n,discount");
    return finaldiscount;
    }
```

Type 3:

```
 //Program to prnt number from 1 to 10

#include<stdio.h>
void display_number();
int main()
```

```
{
        display_number();

  }
  void display_number()
  {

    int i=1,n=10;

  while(i<=n)
  {
        printf("The number is=%d\n",i);
        i++;
         }
   }


//program for print the table of given number
#include<stdio.h>
void display_table();
```

```
int main()
 {
    display_table();

 }
 void display_table()
 {

     int i=1,num,n=10;
     printf("Enter number which you want=");
     scanf("%d",&num);



     while(i<=n)
     {
          printf("The multiplication table is
%d*%d=%d\n",num,i,num*i);
          i++;
     }
  }
```

//Calculate the sum of the given range using function

```
#include <stdio.h>
int sum();
int main()
{
        int s;
        s=sum();
        printf("%d",s);
         }

 int sum()
  {

    int i,n,sum=0;
    printf("Enter number");
    scanf("%d",&n);
```

```
   for(i=1;i<=n;i++)
  {
        sum=sum+i;
    return sum;

  }
}
```

/Check number is prime or not

```
#include<stdio.h>
void isprime();
int main()
{
   isprime();
}
void isprime()
{
    int i=2,num=10,n,flag=0;
        printf("Enter number which you want=");
```

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

    while(i<num)
    {
          if(n%i==0)
           flag=1;
           printf("The number is not prime\n");
           break;

 }
    i++;
    if(flag==0)
    {
          printf("The number is prime");
    }

}
```

```
//program to print armstrong number in given range using function

#include<stdio.h>
#include<math.h>
void isarmstrong();
void main()
{
	isarmstrong();
}
void isarmstrong()
{
	int start,end;
	printf("Enter the start and end range= ");
	scanf("%d %d",&start,&end);

	for(int num=start;num<=end;num++)
	{
		int originalNum=num;
		int sum=0;
```

```
        int numDigits=0;
        int tempNum=num;

        while(tempNum>0)
        {
                tempNum/=10;
                numDigits++;
        }
        tempNum=num;
        while(tempNum>0)
        {
                int digit=tempNum%10;
                sum+=pow(digit,numDigits);
                tempNum/=10;
        }
        if(sum==originalNum)
        {
                printf("%d",originalNum);
        }
}
```

```
  }

    //program to print perfect number using function
#include<stdio.h>
int isperfect();
int main()
 {
   int s;
  isperfect();
  s=isperfect();
  printf("%d",s);
 }
int isperfect()
 {
    int i=1,sum=0,num;
       printf("Enter number which you want= ");
       scanf("%d",&num);

        for(i=1;i<num;i++)
    {
```

```
        if(num%i==0)
         sum+=i;

    }
     if(sum==num)
      return 1;
    else
     return 0;
     }
```

```
//program to print factorial number using function
#include<stdio.h>

unsigned long long factorial(int n)
      {
            unsigned long long fact=1;
            int i=1;
            for(i=1;i<=n;i++)
            {
```

```
            fact *=i;
        }
        return fact;
    }
    int main()
    {
        int num;
        printf("Enter a number=");
        scanf("%d",&num);

        if(num<0)
         {
           printf("The factorial is not defined for
negative numbers:\n");
         }
         else
          {
               printf("Factorial of %d is
%llu\n",num,factorial(num));
            }
             return 0;
```

```
                }


        /Check number is palindrome or not

#include<stdio.h>
int ispalindrome();
int main()
{
        ispalindrome();
 }
 int ispalindrome()
 {
        int num,reverseno=0,remainder,originalno;
        printf("Enter an integer:");
        scanf("%d",&num);

        originalno=num;
        while(num!=0)
        {
```

```
            remainder=num%10;
            reverseno=reverseno*10+remainder;
            num/=10;
        }
        if(originalno == reverseno)
          {
            return 1;
        }
      else
        {
          return 0;
      }
  }
```

//Add the(first and last)digit of a given number

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

```
{
   int n;
      int s=sum(n);
      printf("%d",s);
}
int sum(int num)
{

      int sum,firstdigit,lastdigit;

      printf("Enter an integer:");
      scanf("%d",&num);
      lastdigit=num%10;
      firstdigit=num;

      while(firstdigit>=10)
        {
           firstdigit/=10;
        }
           sum=firstdigit+lastdigit;
```

```
        return sum;
    }

#include<stdio.h>
int isArmstrong(int );
int main()
{
  int num;
  printf("Enter number= ");
  scanf("%d",&num);
  int a=isArmstrong(num);
  printf("%d",a);
}
int isArmstrong(int n)
{

    for(int i=1;i<=n;i++)
    {
        int temp=n;
        int rem,sum;
```

```
            rem=n%10;
            sum=sum+(rem*rem*rem);
            n=n/10;
       {

          if(temp==sum)
             return 1;
           else
             return 0;
      }
      }
  }
  /*include<stdio.h>
int main()
{
       int n,rem,temp,sum=0;
       printf("Enter number wich you want= ");
       scanf("%d",&n);
       temp=n;
```

```
        while(n>0)
        {
           rem=n%10;
           sum=sum+(rem*rem*rem);
           n=n/10;
        }
        if(temp==sum)
          printf("The  number is armstrong number");
        else
          printf("The  number is not armstrong number");
       }*/
```

//program to print prime number using function

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

```
    int n,num;
        printf("Enter number= \n");
        scanf("%d",&num);
        printf("The prime numbers 1 to %d\n",n);
        isPrime(num);

}
void isPrime(int n)
{
        for(int i=1;i<=n;i++)
        {
                int count=0;
                for(int j=1;j<=i;j++)
                {
                        if(i%j==0)
                        {
                                count++;
                        }
                }
                if(count==2)
```

```
            {
                printf("%d\t",i);
            }
        }
}
            //program to print perfect number using
function


#include<stdio.h>
void isPrfect(int);
void main()
{

        int n,num;
        printf("Enter the number= ");
        scanf("%d",&num);
        printf("The perfect numbers 1 to %d\n",n);
        isPerfect(num);


}
```

```
void isPerfect(int n)
{
      int num,sum=0,i;
  for(int i=1;i<=n;i++)
      {
        int count=0;
         for(int j=1;i<=i;j++)
            {
                  if(i%2==0)
                  sum=sum+i;
                  count++;
            }
            if(sum==num)
               printf("\nperfect number are= %d\t",i);
      }

}
```

//program to check strong number int he given range using function

```
#include<stdio.h>
 int isStrongNumber(int);
 int getFactorial(int);
int main()
{
    int num;
    printf("Enter number which you wnat= ");
    scanf("%d",&num);
    if(isStrongNumber(num))
    {
        printf("YES");
    }
    else
    {
        printf("NO");
        }
}
```

```
int isStrongNumber(int num)
{

  int rem,sum=0,temp=num;
  while(num)
  {
        rem=num%10;
        sum=sum+getFactorial(rem);
        num/=10;
 }
   if(temp==sum)return 1;
  else return 0;
}

int getFactorial(int num)
{
        int i,factorial=1;
        for(i=num;i>=1;i--)
        {
```

```
        factorial=factorial*i;
   }
return factorial;
}
```

/program to print fibonacci series upto n terms using function

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

      int num;
      printf("Enter number of terms:");
      scanf("%d",&num);
      calculateseries( num);

}
```

```
void calculateseries(int n)
{


        int t1=0,t2=1,t3,count;

        printf("fibonacci series are!!!\n");
           printf("%d,%d",t1,t2);

           for(count=3;count<=n;count++)
           {
                 t3=t1+t2;
                 printf("%d %d\n",t3,count);

                 t1=t2;
                 t2=t3;
           }
     }
```