

Assignment:-7

Q1.)

Return type void

```
input
Please enter your name:- Mithlesh Gupta
Your name:- Mithlesh Gupta

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

Return type int

```
input
Please Enter your Roll No:- 102016010
Your name:- 102016010

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

Return type float

```
input
Please Enter your Marks:- 23.5
Your Marks:- 23.500000

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

Return type char

```
Gender:- M
Your Gender :- M

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

Q2)

```
Swap Two Number using temp variable:-
Enter first Number:- 12
Enter Second Number:- 43
Before Swap a = 12 and b = 43
After Swap a = 43 and b = 12
```

```
Swap Two Number Without using temp variable:-  
Enter first Number:- 12  
Enter Second Number:- 34  
Before Swap a = 12 and b = 34  
After Swap a = 34 and b = 12
```

Q3)

```
Enter a non -ve number:- 5  
Factorial of 5 is 120  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

Q4)

```
Enter a number:- 13  
Number is Prime
```

```
Enter a number:- 12  
Number is not a Prime
```

Q5)

```
Enter a number:- 13  
2 3 5 7 11 13  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

Q6)

```
Enter first Number:- 12  
Enter Second Number:- 24  
The HCF: 12
```

Q7)

```
Enter first Number:- 12
Enter Second Number:- 4
The LCM: 12

...Program finished with exit code 0
```

Q8)

```
Enter a number:- 6
Fibonnaci of 6 is 13
```

Q9)

```
Enter a number:- 123
adddigit of 123 is 6
```

```
#include <stdio.h>

#include<stdlib.h>

#include<math.h>

#include <stdbool.h>

void display();

int myrollno();

float mymstmark();

char myGender();

int factorial(int n);

bool prime(int n);

void printprime(int num);

void HCF(int n1,int n2);

void LCM(int n1,int n2);

int fib(int n);

int adddigit(int n);

int main()
{
    // Ques-1

    printf("Please enter your name:- ");

    display();

    int rollno=myrollno();

    printf("Your name:- %d",rollno);

    float mark=mymstmark();

    printf("Your Marks:- %f",mark);

    char gender=myGender();

    printf("Your Gender :- %c",gender);
```

/// Ques-2

```
printf("Swap Two Number using temp variable:- \n");
```

```
int temp,a,b;
```

```
printf("Enter first Number:- ");
```

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

```
printf("Enter Second Number:- ");
```

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

```
printf("Before Swap a = %d and b = %d",a,b);
```

```
temp=a;
```

```
a=b;
```

```
b=temp;
```

```
printf("\n");
```

```
printf("After Swap a = %d and b = %d",a,b);
```

```
printf("\nSwap Two Number Without using temp variable:- \n");
```

```
printf("Enter first Number:- ");
```

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

```
printf("Enter Second Number:- ");
```

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

```
printf("Before Swap a = %d and b = %d",a,b);
```

```
a=a^b;
```

```
b=a^b;
```

```
a=a^b;
```

```
printf("\n");
```

```
printf("After Swap a = %d and b = %d",a,b);
```

// Ques-3

```
int num;

printf("Enter a non -ve number:- ");

scanf("%d",&num);

int fac=factorial(num);

printf("Factorial of %d is %d",num,fac);
```

// Ques-4

```
int num;

printf("Enter a number:- ");

scanf("%d",&num);

bool pr=prime(num);

if(pr)
{
    printf("Number is Prime");
}
else
{
    printf("Number is not a Prime");
}
```

// Ques-5

```
int num;

printf("Enter a number:- ");

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

```
printprime(num);
```

```
// Ques-6
```

```
int a,b;
```

```
printf("Enter first Number:- ");
```

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

```
printf("Enter Second Number:- ");
```

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

```
HCF(a,b);
```

```
// Ques-7
```

```
int a,b;
```

```
printf("Enter first Number:- ");
```

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

```
printf("Enter Second Number:- ");
```

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

```
LCM(a,b);
```

```
// Ques-8
```

```
int num;
```

```
printf("Enter a number:- ");
```

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

```
int f=fib(num);
```

```
printf("Fibonnaci of %d is %d",num,f);
```

```
// Ques-9
```

```
int num;
```

```

    printf("Enter a number:- ");
    scanf("%d",&num);
    int f=adddigit(num);
    printf("adddigit of %d is %d",num,f);
    return 0;}

void display()
{
    char name[14];
    for(int i=0;i<14;i++)
    {
        scanf("%c",&name[i]);
    }
    printf("Your name:- ");
    for(int i=0;i<14;i++)
    {
        printf("%c",name[i]);
    }

}

int myrollno()
{
    int rollno;
    printf("Please Enter your Roll No:- ");
    scanf("%d",&rollno);

    return rollno;
}

float mymstmark()
{

```



```
float mark;

printf("Please Enter your Marks:- ");

scanf("%f",&mark);


return mark;
}
```

```
char myGender()
{
    char group;
    printf("Gender:- ");
    scanf("%c",&group);
    return group;
}
```

```
int factorial(int num)
{
    if(num<=1)
        return num;
    return num*factorial(num-1);
}
```

```
bool prime(int num)
{
    if(num<=1)return true;
    int i=2;
    for(i=2;i<num;i++)
    {
        if(num%i==0)
        {
            return false;
        }
    }
}
```

```

    }
}
return true;
}
void printprime(int num)
{
    if(num<=1)
    {
        printf("%d",num);
        return;
    }

    int k=2;
    while(k<=num)
    {
        bool temp=false;
        for(int i=2;i<k;i++)
        {
            if(k%i==0)
            {
                temp=true;
                break;
            }
        }
        if(!temp)
        {
            printf("%d ",k);
        }
        k++;
    }
}

```

```

    }
    return;
}

void HCF(int n1,int n2)
{

    int hcf=n1<n2?n1:n2;
    for(int i = 1; i <= n1 || i <= n2; i++) {
        if(n1 % i == 0 && n2 % i == 0)
            hcf = i;
    }

```

```

    printf("The HCF: %d", hcf);
    return;
}

```

```

void LCM(int n1,int n2)
{
    int lcm = 1;
    int max = (n1 > n2)? n1 : n2;
    for(int i = max ; i <= n1*n2 ; i++)
    {
        if(i % n1 == 0 && i % n1%2 == 0){
            lcm = i;
            break;
        }
    }
}

```

```

printf("The LCM: %d", lcm);

```

```
    return;
```

```
}
```

```
int fib(int n)
```

```
{
```

```
    if(n<=1) return 1;
```

```
    return fib(n-1)+fib(n-2);
```

```
}
```

```
int adddigit(int n)
```

```
{
```

```
    int res=0;
```

```
    while(n!=0)
```

```
    {
```

```
        res=res+(n%10);
```

```
        n=n/10;
```

```
    }
```

```
    return res;
```

```
}
```