

# assignment 5 ritesh

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## ASSIGNMENT-5

SUBMITTED BY:

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Q.1 Find the sum of first 10 natural numbers.

```
#include
int main()
{
    int i,n=10,sum;
    printf("Sum of 1st 10 natural number is:");
    for(i=1;i<=n;i++)
    {
        sum=sum+i;
    }
    printf("%d\n",sum);
    return 0;
    Sum of 1st 10 natural number is:55
```

Q.2 Display the multiplication table of a given integer.

```
#include
int main(){
    int n,i=1;
    printf("Enter the value of n:");
    scanf("%d",&n);
    while(i<=10){
        printf("%d x %d=%d\n",n,i,n*i);
        i++;
    }
    return 0;
}
Enter the value of n:2
2 x 1=2
2 x 2=4
2 x 3=6
2 x 4=8
2 x 5=10

2 x 6=12
2 x 7=14
2 x 8=16
2 x 9=18
2 x 10=20
```

Q.3 Display the n terms of odd natural number and their sum.

```
#include
int main(){
    int n,i=1,sum;
    printf("Enter the value for n:");
    scanf("%d",&n);
    do {
        if(i%2!=0){
            sum=sum+i;
        }
        i++;
    }
    while(i<=n);
    printf("The sum of n terms odd number is:%d\n",sum);
    return 0;
}
Enter the value for n:10
The sum of n terms odd number is:25
```

Q.4 Display the pattern like right angle triangle

```
*
**
***
****
#include
int main()
{
    int i,j,n;
    printf("Enter the value for n:");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("*");
        }
        printf("\n");
    }
    return 0;
}
```

Enter the value for n:4

```
*
**
***
****
```

Q.5 Display the pattern like right angle triangles.

```
1
2 3
4 5 6
7 8 9 10
#include
int main(){
    int n,i=1,j,k=1;
    printf("Please Enter the Number of Rows:");
    scanf("%d", &n);
    while ( i <= n){
        j = 1;
        while ( j <= i ) {
            printf(" %d ",k++);
            j++;
        }
        i++;
        printf("\n");
    }
    return 0;
}
```

Please Enter the Number of Rows:4

```
1
2 3
4 5 6
7 8 9 10
```

Q.6 Make such a pattern like a pyramid with numbers

```
1
2 3
4 5 6
7 8 9 10
#include
int main(){
    int i=1,j,k,n,t=1,g;
    printf("Enter the value for n:");
    scanf("%d",&n);
    g=n+4-1;
    do
    {
        for(k=g;k>=1;k--){
            printf(" ");
        }
        for(j=1;j<=i;j++)
            printf("%d",t++);
        printf("\n");
        g--;
        i++;
    }
    while(i<=n);
    return 0;
}
```

Enter the value for n:4

```
1
23
```

456  
78910

Q.7 Display Pascal's triangle

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
#include
int main(){
int n,i,j,k=1,s;
printf("Enter the value for n:");
scanf("%d",&n);
for(i=0;i for(s=1;s<=n-i;s++)
printf(" ");
for(j=0;j<=i;j++) {
if(j==0 || i==0)
k=1;
else
k=k*(i-j+1)/j;
printf("%4d",k);
}
printf("\n");
}
return 0;
}
```

Enter the value for n:5

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
```

Q.8 Display the first n terms of Fibonacci series

```
#include
int main() {
int i,n,a=0,b=1,temp;
printf("Enter the value for n:");
scanf("%d", &n);
printf("Fibonacci Series:");
for(i=1;i<=n;++i) {
printf("%d, ",a);
temp=a+b;
a=b;
b=temp;
}
return 0;
}
```

Enter the value for n:10

Fibonacci Series:0, 1, 1, 2, 3, 5, 8, 13, 21, 34

Q.9 Check whether a given number is a perfect number or not.

```
#include
int main() {
int i=1,n,sum=0;
printf("Enter the value for n:");
scanf("%d",&n);
while(i<=n/2) {
if(n%i==0) {
sum=sum+i;
}
i++;
}
if(sum==n)
printf("%d is PERFECT NUMBER",n);
else
printf("%d is NOT PERFECT NUMBER",n);
return 0;
}
```

Enter the value for n:-1

-1 is NOT PERFECT NUMBER

Q.10 Find the Armstrong number for a given range of number.

```
#include
#include
int main() {
int a,b,n,on,rem,c=0;
double res=0.0;
printf("Enter 2 number:");
scanf("%d %d", &a,&b);
printf("Armstrong number between %d to %d are:",a,b);
}
```

```

for(n=a+1;n {
on=n;
while(on!=0)
{
on=on/10;
++c;
}
on=n;
while(on!=0)
{
rem=on % 10;
res=res+ pow(rem, c);
on=on/10;
}
if(res==n)
printf("%d ",n);
c=0;
res=0;
}
return 0;
}
Enter 2 number:200 2000
Armstrong number between 200 to 2000 are:370 371 407 1634

```

Q.11 Determine whether a given number is prime or not.

```

#include
int main() {
int n,i=2,flag=0;
printf("Enter the value for n:");
scanf("%d",&n);
while(i<=n/2) {
if(n%i==0) {
flag=1;
break;
}
++i;
}
if(n==1) {
printf("1 is neither prime nor composite");
}
else
{
if(flag==0)
printf("%d is a prime number",n);
else
printf("%d is not a prime number",n);
}
return 0;
}
Enter the value for n:29
29 is a prime number

```

Q.12 Display the number in reverse order

```

#include
int main() {
int n,r=0;
printf("Enter the number:");
scanf("%d",&n);
do {
r=r*10;
r=r+n%10;
n=n/10;
}
while(n!=0);
printf("Reverse of the number is:%d\n",r);
return 0;
}
Enter the number:3456
Reverse of the number is:6543

```

Q.13 Display the sum of the series [9 + 99 + 999 + 9999..]

```

#include
void main()
{
long int n,i,t=9;
int sum=0;
printf("Enter the value of n:");
scanf("%d", &n);
for(i=1;i<=n;i++)
{
sum=sum+t;
printf("%ld ",t);
}
}

```

```

t=t*10+9;
}
printf("\nsum of the series:%d\n",sum);
}
Enter the value of n:5
9 99 999 9999 99999
sum of the series:111105

```

Q.14 find the sum of the series{1-X<sup>2</sup>/2!+X<sup>4</sup>/4!-...}

```

#include
void main()
{
float x,sum,t,d;
int i=1,n;
printf("Enter the value for x:");
scanf("%f", &x);
printf("Enter the value for n:");
scanf("%d",&n);
sum=1;
t=1;
while(i {
d=(2*i)*(2*i-1);
t=-t*x*x/d;
sum=sum+t;
i++;
}
printf("the sum= %f\n Value of n= %d\n Value of X=%.2f\n",sum,n,x);
}
Enter the value for x:2
Enter the value for n:5
the sum= -0.415873
Value of n= 5
Value of X=2.00

```

Q.15 find the sum of the series [x-x<sup>3</sup>+x<sup>5</sup>+...]

```

#include
#include
void main()
{
int x,sum,ctr,i=1,n,m,mm,nn;
printf("Enter the value for x:");
scanf("%d",&x);
printf("Enter the value for n:");
scanf("%d",&n);
sum=x;
m=-1;
printf("The value of the series:\n");
printf("%d\n",x);
do
{
ctr=(2*i+1);
mm=pow(x,ctr);
nn=mm*m;
printf("%d\n",nn);
sum=sum+nn;
m=m*(-1);
i++;
}
while(i printf("\n The sum=%d\n",sum);
}

```

```

Enter the value for x:2
Enter the value for n:5
The value of the series:
2
-8
32
-128
512

```

The sum=410

Q.18 Display the pattern like diamond.

```

#include
int main()
{
int i,j,n;

```

```

printf("Enter number of rows\n:");
scanf("%d",&n);
for(i=1;i<=n;i++)
{
for(j=1;j<=n-i;j++)
printf(" ");
for(j=1;j<=2*i-1;j++)
printf("*");
printf("\n");
}
for(i=1;i<=n-1;i++)
{
for(j=1;j<=i;j++)
printf(" ");
for(j=1;j<=2*(n-i)-1;j++)
printf("*");
printf("\n");
}
return 0;
}
Enter number of rows

```

```

Enter number of rows
:5
 *
***
*****
*****
*****
*****
*****
***
 *

```

---

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