Control Statements

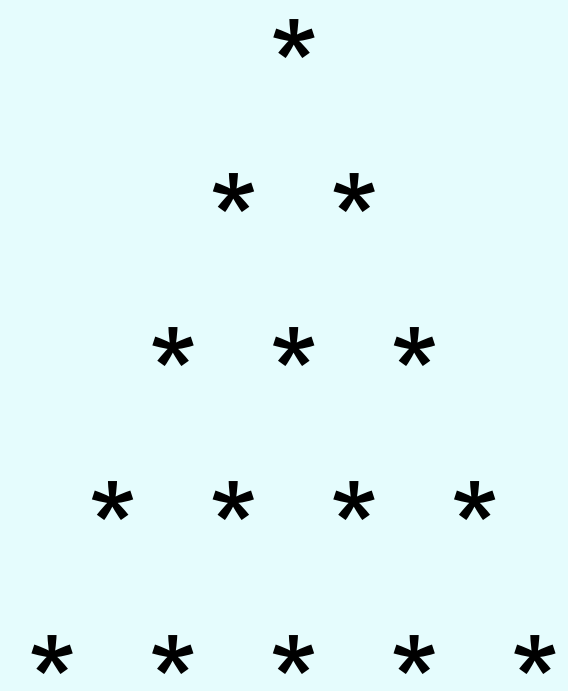
WAP to print the following pattern for n rows. Ex. for n=4 rows

```
1
01
101
0101
10101
010101
```

```
#include <stdio.h>
int main()
{
int i,j,n;
printf("\nEnter The
Number Of Rows =>");
scanf("%d",&n);
for(i=1;i<=n;i++)
{
for(j=1;j<=i;j++)
printf("%d",(i+j+1)%2);
printf("\n");
}
return 0;
}
```

Code

```
#include<stdio.h>
int main()
{
int n,i,j,k;
printf("\nEnter how many rows =>");
scanf("%d",&n);
printf("\n");
for(i=1;i<=n;i++)
{
for(j=1;j<=n-i;j++)
printf(" ");
for(k=1;k<=i;k++)
printf("* ");
printf("\n");
}
return 0;
}
```



```
#include <stdio.h>
int main()
{
int n,i,j,k;
printf("\nEnter a number to form a pyramid=>");
scanf("%d",&n);
for(i=1;i<=n;i++)
{
for(j=1;j<=n-i;j++)
printf(" ");
for(k=1;k<=i;k++)
printf("%d",k);
for(k=i-1;k>0;k--)
printf("%d",k);
printf("\n");
}
return 0;
}
```

1

121

12321

1234321

Code

```
#include<stdio.h>
int main()
{
int n,i,j,k;
printf("\nEnter how many rows =>");
scanf("%d",&n);
printf("\n");
for(i=1;i<=n;i++)
{
for(j=1;j<=n-i+1;j++)
printf("* ");
printf("\n");
}
return 0;
}
```

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

Code

```
#include<stdio.h>
int main()
{
int n,i,j,k;
printf("\nEnter how many rows =>");
scanf("%d",&n);
printf("\n");
for(i=1;i<=n;i++)
{
for(j=1;j<=i-1;j++)
printf(" ");
for(k=1;k<=n-i+1;k++)
printf("* ");
printf("\n");
}
return 0;
}
```

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

```
#include<stdio.h>
int main()
{
int n,i,j,k;
printf("\nEnter how many rows =>");
scanf("%d",&n);
printf("\n");
for(i=1;i<=n;i++)
{
if(i%2!=0)
{
for(j=1;j<=i;j++)
printf("%d",j);
}
else
{
for(k=i;k>0;k--)
printf("%d",k);
}
printf("\n");
}
return 0;
}
```

```
1
2 1
1 2 3
4 3 2 1
1 2 3 4 5
```

```
#include<stdio.h>
int main()
{
int n,i,j,k;
printf("\nEnter how many rows =>");
scanf("%d",&n);
printf("\n");
for(i=1;i<=n;i++)
{
for(j=1;j<=n-i+1;j++)
printf("%d",j);
for(k=n-i;k>0;k--)
printf("%d",k);
printf("\n");
}
return 0;
}
```

```
1234321
12321
121
1
```

- WAP to check whether an input integer is perfect number or not.
- Perfect Number (Number = Addition of its factors except equal factor)

```
#include<stdio.h>
int main()
{
int n,n1,i,sum=0;
printf("Enter a number\n");
scanf("%d",&n);
n1 = n;
for(i=1;i<n;i++)
{
if(n%i==0)
sum = sum+i;
}
if(sum==n1)
printf("Entered number is a perfect number\n");
else
printf("Entered number is not a perfect number\n");
return 0;
}
```

- WAP to sum the following series S=1+(1+2)+(1+2+3)+...+(1+2+3+...+n).

```
#include<stdio.h>
int main()
{
int n,i,j,sum=0;
printf("Enter the number of terms\n");
scanf("%d",&n);
for(i=1;i<=n;i++)
{
for(j=1;j<=i;j++)
sum = sum+j;
}
printf("Sum = %d\n",sum);
return 0;
}
```

- WAP to print the series as 1 3 7 15 31 .....n, where n is given by user.

```
#include<stdio.h>
int main()
{
int n,i,sum=0,sum1=0;
printf("Enter the number of terms\n");
scanf("%d",&n);
for(i=1;i<=n;i++)
{
sum1 = sum*2+1;
printf("%d\t",sum1);
sum=sum1;
}
return 0;
}
```

- WAP to print the series as 3 5 7 11 13 17.....n, where n is given by user.

```
#include<stdio.h>
int main()
{
int n,i,j,count;
printf("Enter the number of terms\n");
scanf("%d",&n);
for(i=1;i<=n;i++)
{
count=0;
for(j=1;j<=i;j++)
{
    if(i%j==0)
    count=count+1;
}
if(count==2)
printf("%d ",i);
}
return 0;
}
```

- WAP to check whether an integer number is a Armstrong number or not!.

```
#include<stdio.h>
int main()
{
int n,n1,r,sum=0;
printf("enter the number\n");
scanf("%d",&n);
n1 = n;
for(;n>0;n=n/10)
{
r=n%10;
sum=sum+(r*r*r);
n=n/10;
}
if(n1==sum)
printf("%d is an armstrong number\n",n1);
else
printf("%d is not an armstrong number\n",n1);
return 0;
}
```

Assignment

- WAP to check whether an input integer is perfect number or not.
- WAP to sum the following series S=1+(1+2)+(1+2+3)+...+(1+2+3+...+n)
- WAP to print the series as 1 3 7 15 31 .....n, where n is given by user.
- WAP to print the series as 2 3 5 7 11 13 17.....n, where n is given by user.
- WAP to check whether an integer number is a Armstrong number or not!.

Assignment

- WAP to print the following pattern for n rows. Ex. for n=5 rows

  1
  2 1
  1 2 3
  4 3 2 1
  1 2 3 4 5

- WAP to form reverse pyramid of numbers for a given number. Ex. for number 4

  1234321
  12321
  121
  1

Assignment

- WAP to form reverse pyramid of numbers for a given number. Ex. for number 4

1234321
12321
121
1