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Class 8 Lab questions

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

1
0 1
1 0 1
0 1 0 1
1 0 1 0 1

Code:

```
#include <stdio.h>
int main()
{
int a285,b285,d285;
printf("enter the value:\n");
scanf("%d",&a285);
printf("\n");
for(b285=1;b285<=a285;b285++)
{
    for(d285=1;d285<=b285;d285++)
        printf("%d ",(a285+b285+d285)%2);
        printf("\n");
}
return 0;
}
```

Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\KIIT\Desktop\Programming\class8> gcc char2.c
PS C:\Users\KIIT\Desktop\Programming\class8> ./a.exe
enter the value:
7

1
0 1
1 0 1
0 1 0 1
1 0 1 0 1
0 1 0 1 0 1
1 0 1 0 1 0 1
PS C:\Users\KIIT\Desktop\Programming\class8>
```

```
PS C:\Users\KIIT\Desktop\Programming\class8> ./a.exe
enter the value:
6

0
1 0
0 1 0
1 0 1 0
0 1 0 1 0
1 0 1 0 1 0
PS C:\Users\KIIT\Desktop\Programming\class8>
```

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

A
A B
A B C
A B C D
A B C D E

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Code:

```c
#include<stdio.h>
int main()
{
int a285,b285,d285;
char ch285;
printf("enter the value:\n");
scanf("%d",&a285);
printf("\n");
for(b285=1;b285<=a285;b285++)
{
    ch285='A';
    for(d285=1;d285<=b285;d285++)
       {printf("%c ",ch285);
        ch285=ch285+1;}
    printf("\n");
}
return 0;
}
```

Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\KIIT\Desktop\Programming\class8> gcc char1.c
PS C:\Users\KIIT\Desktop\Programming\class8> ./a.exe
enter the value:
5

A
A B
A B C
A B C D
A B C D E
PS C:\Users\KIIT\Desktop\Programming\class8>
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

enter the value:
9

A
A B
A B C
A B C D
A B C D E
A B C D E F
A B C D E F G
A B C D E F G H
A B C D E F G H I
PS C:\Users\KIIT\Desktop\Programming\class8>
```

#3. Series 1 + 32/3 3 + 52/5 3 + 72/7 3 + ... till N terms

Code:

```c
#include <stdio.h>
#include <math.h>
int main()
{
    int i285,N285;
    float sum285;
    int count285;
```

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```
    printf("Provide total number of terms=>");
    scanf("%d",&N285);
    sum285=0.0f;
    count285=1;
    for(i285=1;i285<=N285;i285++)
    {
        sum285 = sum285 + ((float)(pow(count285,2))/ (float)(pow(count285,3)));
        count285+=2;
    }
    printf("Sum of the series is: %f\n",sum285);
    return 0;

}
```

Output:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

PS C:\Users\KIIT\Desktop\Programming\class8> gcc series.c
PS C:\Users\KIIT\Desktop\Programming\class8> ./a.exe
Provide total number of terms=>9
Sum of the series is: 2.080624
PS C:\Users\KIIT\Desktop\Programming\class8>
```

```
PS C:\Users\KIIT\Desktop\Programming\class8> ./a.exe
Provide total number of terms=>5
Sum of the series is: 1.787302
PS C:\Users\KIIT\Desktop\Programming\class8>
```

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

Code:

```
#include <stdio.h>
int main()
{
int n285,i285,j285,k285;
   printf("\nEnter a number to form a pyramid =>");
    scanf("%d",&n285);
    printf("\n");
    for(i285=1;i285<=n285;i285++)
    {
        for(j285=1;j285<=n285-i285;j285++)
            printf("  ");
        for(k285=1;k285<=i285;k285++)
            printf("%d ",k285);
        for(k285=i285-1;k285>0;k285--)
            printf("%d ",k285);
        printf("\n");
```

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```
    }
return 0;
}
```

Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\KIIT\Desktop\Programming\class8> gcc center_star.c
PS C:\Users\KIIT\Desktop\Programming\class8> ./a.exe

Enter a number to form a pyramid =>6

         1
       1 2 1
     1 2 3 2 1
   1 2 3 4 3 2 1
 1 2 3 4 5 4 3 2 1
1 2 3 4 5 6 5 4 3 2 1
PS C:\Users\KIIT\Desktop\Programming\class8>
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\KIIT\Desktop\Programming\class8> ./a.exe

Enter a number to form a pyramid =>8

           1
         1 2 1
       1 2 3 2 1
     1 2 3 4 3 2 1
   1 2 3 4 5 4 3 2 1
 1 2 3 4 5 6 5 4 3 2 1
1 2 3 4 5 6 7 6 5 4 3 2 1
PS C:\Users\KIIT\Desktop\Programming\class8>
```