ASSIGNMENT

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SUBJECT: C programming

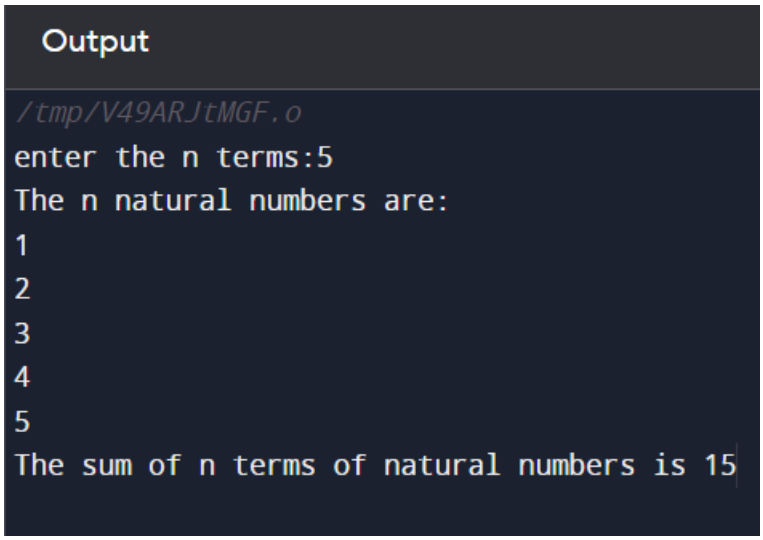
Q1. Write a C program to display n terms of natural numbers and their sum.

PROGRAM:

```
#include <stdio.h>
int main()
{
   int n,sum,i=1;
   printf("enter the n terms:");
   scanf("%d",&n);
   printf("The n natural numbers are:\n");
   while(i<=n)
   {
      printf("%d\n",i);
      sum+=i;
      i++;
   }
   printf("The sum of n terms of natural numbers is %d",sum);
```

}

OUTPUT:



Q2. Write a program in C to input 5 numbers from the keyboard and find their sum and average.

PROGRAM:

```
#include <stdio.h>
int main()
{
   int i,num,sum = 0;
   float avg;
   printf("Input 5 numbers:\n");
   for (i = 0; i < 5; i++)
   {
      printf("Enter number:");
```

```
        scanf("%d", &num);
        sum += num;
    }
    avg=sum/5;
    printf("The sum of the  5 numbers is:%d\n",sum);
    printf("The average of the 5 numbers is:%f",avg);
}
```

OUTPUT:

```
Output
/tmp/BRlS9MyyLG.o
Input 5 numbers
Enter number:4
Enter number:5
Enter number:6
Enter number:7
Enter number:8
The sum of the  5 numbers is:30
The average of the 5 numbers is:6.000000
```

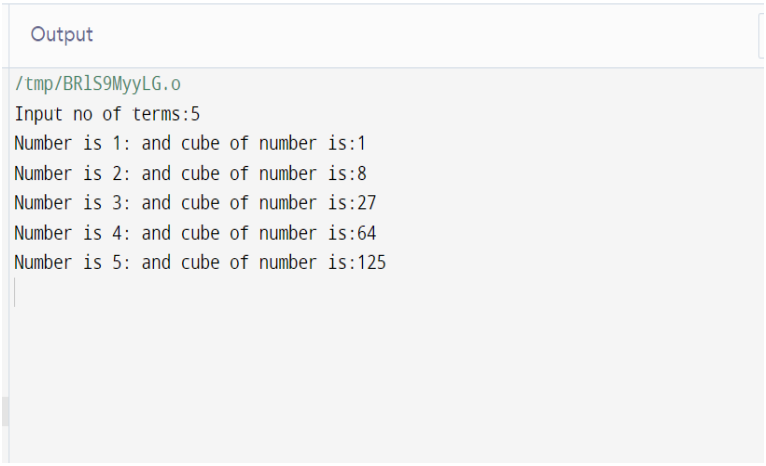
Q3. Write a C program to display the cube of the given number up to an integer.

PROGRAM:

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

```
    int n,i,cube;
    printf("Input no of terms:");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        cube=i*i*i;
        printf("Number is %d: and cube of number is:%d\n",i,cube);
    }
}
```

OUTPUT:



Q4. Write a C program to display the multiplication table of a given integer.

PROGRAM:

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

```
{
   int num,n,i;
   printf("enter the number for which multiplication has to be done:");
   scanf("%d",&num);
   printf("Input the number of terms:");
   scanf("%d",&n);
   for(i=0;i<=n;i++)
   {
      printf("%d x %d = %d\n",num,i,num*i);
   }
}
```

OUTPUT:

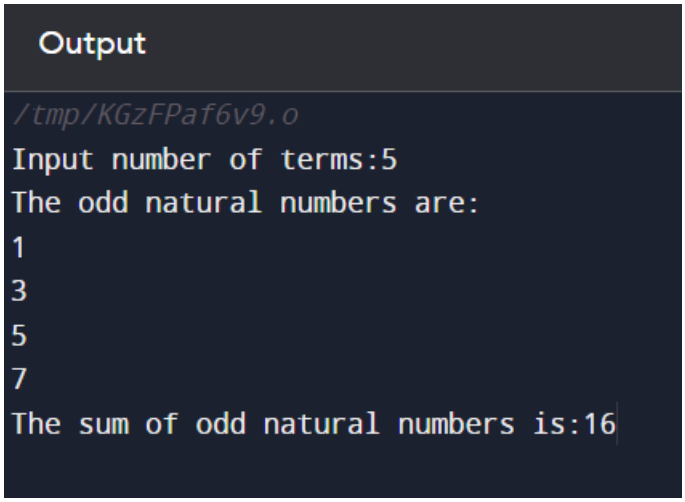
```
Output
/tmp/uAgYt3tCHB.o
enter the number for which multiplication has to be done:6
Input the number of terms:10
6 x 0 = 0
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48
6 x 9 = 54
6 x 10 = 60
```

Q5. Write a C program that displays the sum of n odd natural numbers.

PROGRAM:

```
#include <stdio.h>
int main()
{
   int n,i=1,sum=0;
   printf("Input number of terms:");
   scanf("%d",&n);
   printf("The odd natural numbers are:\n");
   while(i<n)
   {
      printf("%d\n",(2*i)-1);
      sum+=(2*i)-1;
      i++;
   }
   printf("The sum of odd natural numbers is:%d",sum);
}
```

OUTPUT:

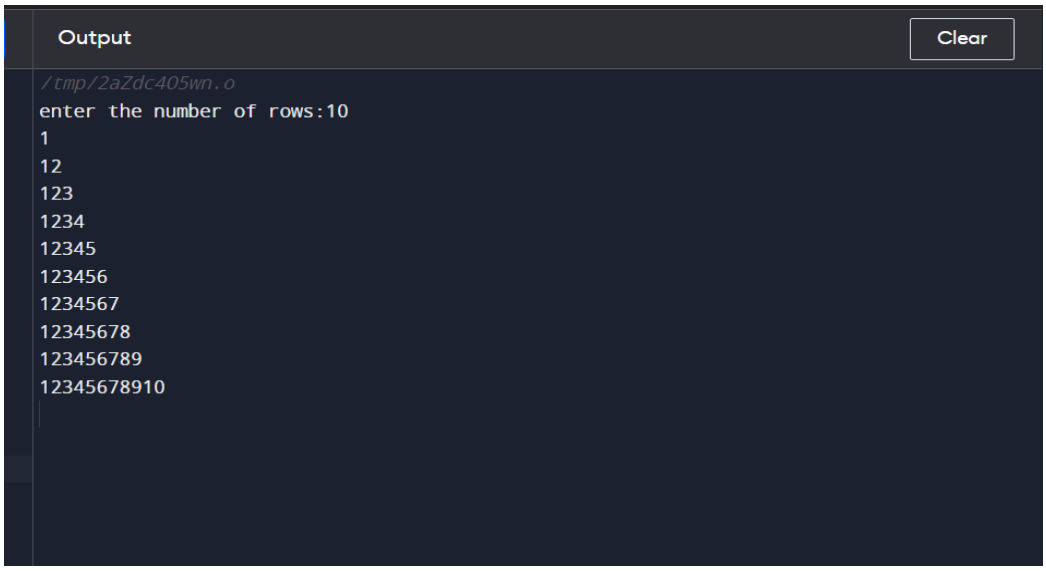


Q6. Write a C program to display the pattern like a right angle triangle with a number.

PROGRAM:

```
#include <stdio.h>
int main() {
   int i,b,j;
   printf("enter the number of rows:");
   scanf("%d",&b);
   for(i=1;i<=b;i++)
   {
      for(j=1;j<=i;j++)
      {
         printf("%d",j);
      }
      printf("\n");
   }
}
```

OUTPUT:



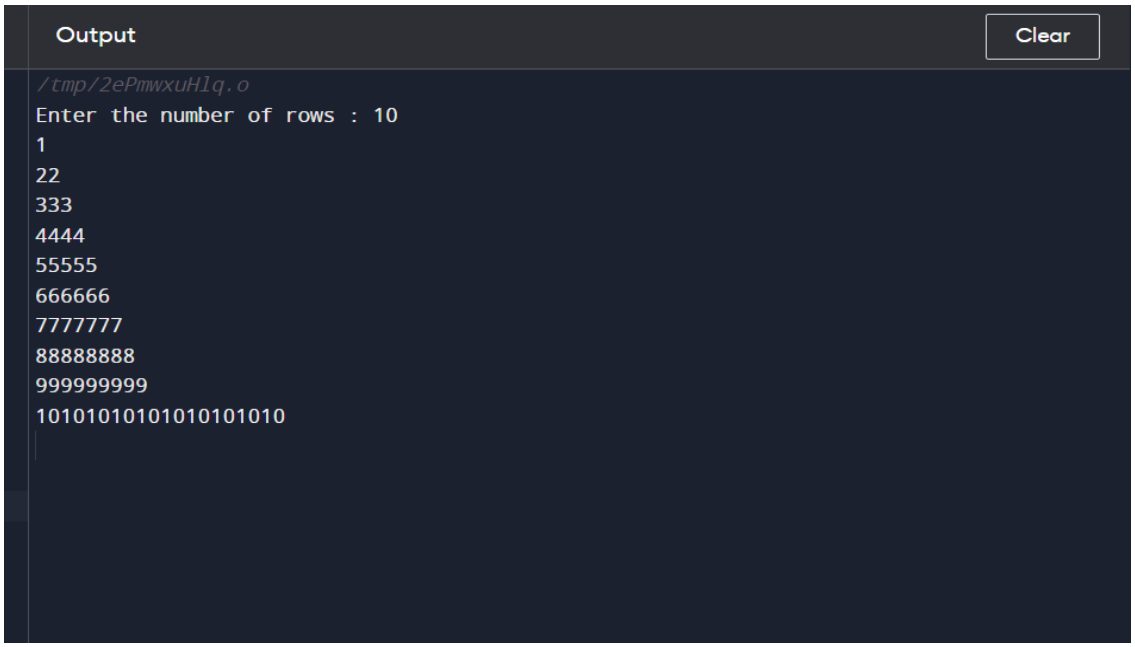
Q7. Write a program in C to make such a pattern like a right angle triangle with a number which repeats a number in a row.

PROGRAM:

```
#include <stdio.h>
int main()
{
  int i,j,r;
```

```
  printf("Enter the number of rows : ");
  scanf("%d",&r);
  for(i=1;i<=r;i++)
  {
                for(j=1;j<=i;j++){
                  printf("%d",i);}
                printf("\n");
  }
}
```

OUTPUT:

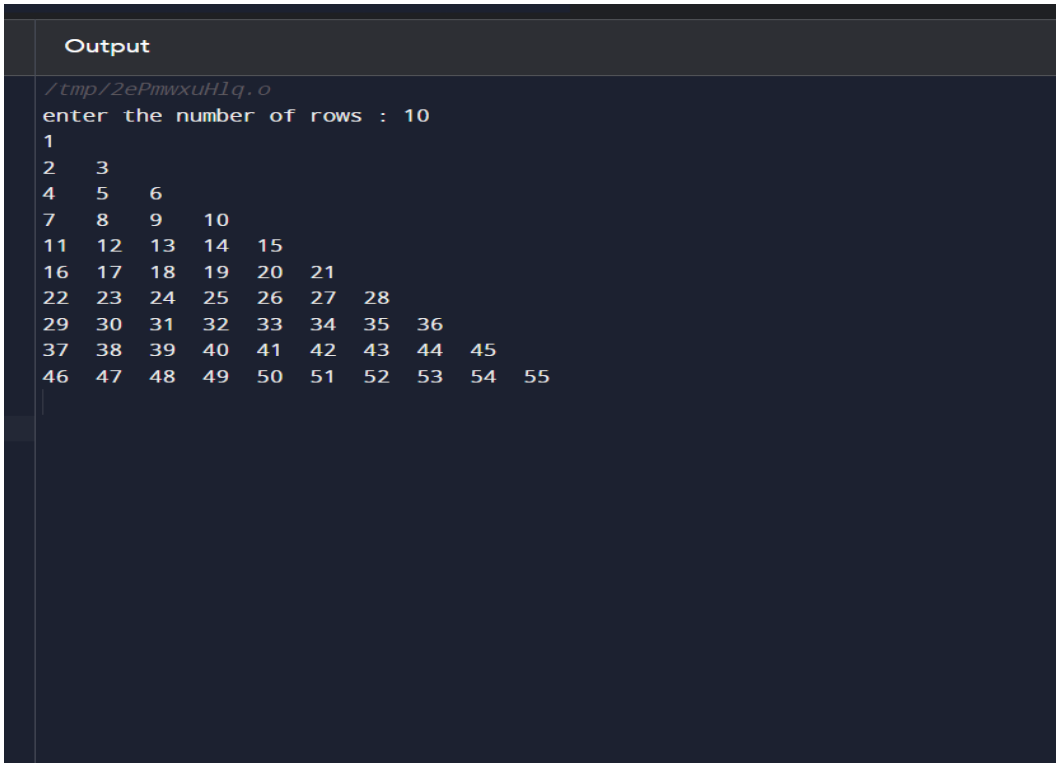


Q8. Write a C program to make such a pattern like a right angle triangle with the number increased by 1.

PROGRAM:

```
#include <stdio.h>
int main()
{
  int i,j,r,a=1;
  printf("enter the number of rows : ");
  scanf("%d",&r);
  for(i=1;i<=r;i++)
  {
                for(j=1;j<=i;j++){
                  printf("%d\t",a++);}
                printf("\n");
  }
}
```

OUTPUT:



Q9. Write a C program to make such a pattern like a pyramid with a number that repeats in the same row.

PROGRAM:

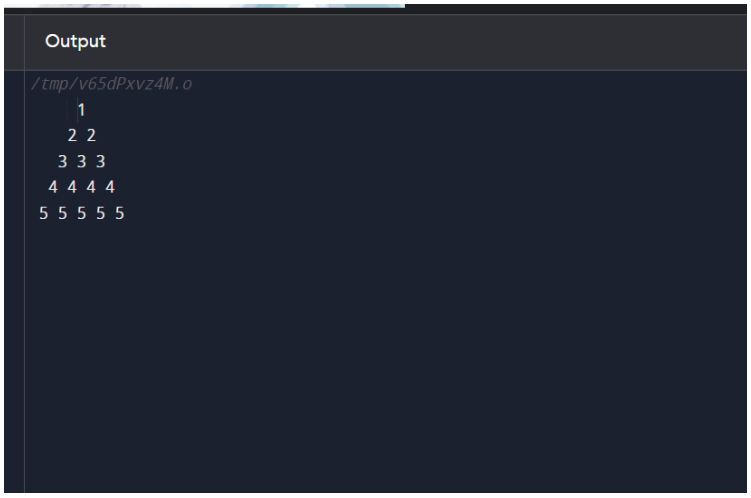
```
#include <stdio.h>
int main()
{
   int row,column,a=5,middle;
   for(row=1; row<= 5; row++)
```

```
    {
        for(column=1; column<=a; column++)
        {
                printf(" ");
        }
        for(middle=1; middle<=row; middle++)
        {
                printf("%d",row);
                printf(" ");
        }
        printf("\n");

        a=a-1;
    }


}
```

OUTPUT:

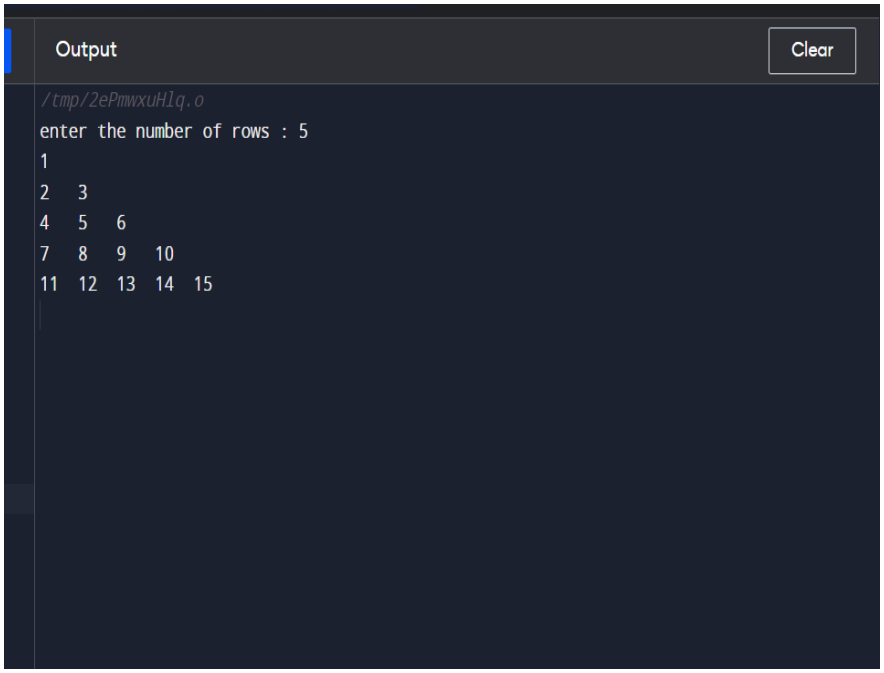


Q10. Write a C program to print Floyd's Triangle.

PROGRAM:

```
#include <stdio.h>
int main()
{
  int i,j,r,a=1;
  printf("enter the number of rows : ");
  scanf("%d",&r);
  for(i=1;i<=r;i++)
  {
                for(j=1;j<=i;j++){
                  printf("%d\t",a++);}
                printf("\n");
  }
}
```

OUTPUT:


Output
Clear
/tmp/2ePmwxuHlq.o
enter the number of rows : 5
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15