PRACTICAL-6

C program to find sum of all natural numbers in given range using recursion.

INPUT:

```c
#include <stdio.h>

int addNumbers(int n);

int main()
{
    int num;
    printf("Enter a positive integer: ");
    scanf("%d", &num);
    printf("Sum = %d", addNumbers(num));
    return 0;
}

int addNumbers(int n)
{
    if (n != 0)
        return n + addNumbers(n - 1);
    else
        return n;
}
```

OUTPUT:

PRACTICAL-6

WAP to calculate factorial of a no. using recursion.

INPUT:

```c
#include <stdio.h>
long int multiplyNumbers(int n);
int main()
{
    int n;
    printf("Enter a positive integer: ");
    scanf("%d", &n);
    printf("Factorial of %d = %ld", n, multiplyNumbers(n));
    return 0;
}

long int multiplyNumbers(int n)
{
    if (n >= 1)
        return n * multiplyNumbers(n - 1);
    else
        return 1;
}
```

OUTPUT:

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C program to print all natural numbers in given range recursively.

INPUT:

```c
#include <stdio.h>
void printNaturalNumbers(int lowerLimit, int upperLimit);
int main()
{
    int lowerLimit, upperLimit;
    printf("Enter lower limit: ");
    scanf("%d", &lowerLimit);
    printf("Enter upper limit: ");
    scanf("%d", &upperLimit);
    printf("All natural numbers from %d to %d are: ", lowerLimit, upperLimit);
    printNaturalNumbers(lowerLimit, upperLimit);
    return 0;
}
void printNaturalNumbers(int lowerLimit, int upperLimit)
{
    if (lowerLimit > upperLimit)
        return;
    printf("%d, ", lowerLimit);
    printNaturalNumbers(lowerLimit + 1, upperLimit);
}
```

OUTPUT:

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C program to print all even numbers in given range using recursion.

INPUT:

```c
#include <stdio.h>
void printEven(int cur, int limit);
int main()
{
    int lowerLimit, upperLimit;
    printf("Enter lower limit: ");
    scanf("%d", &lowerLimit);
    printf("Enter upper limit: ");
    scanf("%d", &upperLimit);

    printf("Even Numbers from %d to %d are: ", lowerLimit, upperLimit);
    printEven(lowerLimit, upperLimit);

    return 0;
}
void printEven(int cur, int limit)
{
    if (cur > limit)
        return;

    printf("%d, ", cur);
    printEven(cur + 2, limit);
}
```

OUTPUT: