Tower of Hanoi

```
#include <stdio.h>

void towers(int, char, char, char);

void main()

{

   int num;

   printf("Enter the number of disks : ");

   scanf("%d", &num);

   printf("The sequence of moves involved in the Tower of Hanoi are :\n");

   towers(num, 'A', 'C', 'B');

}

void towers(int num, char frompeg, char topeg, char auxpeg)

{

   if (num == 1)

   {

      printf("\n Move disk 1 from peg %c to peg %c", frompeg, topeg);

      return;

   }

   towers(num - 1, frompeg, auxpeg, topeg);

   printf("\n Move disk %d from peg %c to peg %c", num, frompeg, topeg);

   towers(num - 1, auxpeg, topeg, frompeg);

}
```

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Quicksort

```
#include<stdio.h>
```

```
void quicksort(int number[25],int first,int last){
  int i, j, pivot, temp;

  if(first<last){
    pivot=first;
    i=first;
    j=last;
    while(i<j){
      while(number[i]<=number[pivot]&&i<last)
        i++;
      while(number[j]>number[pivot])
        j--;
      if(i<j){
        temp=number[i];
        number[i]=number[j];
        number[j]=temp;
      }
    }

    temp=number[pivot];
    number[pivot]=number[j];
    number[j]=temp;
    quicksort(number,first,j-1);
    quicksort(number,j+1,last);
  }
}

int main(){
  int i, count, number[25];

  printf("How many elements are u going to enter?: ");
  scanf("%d",&count);

  printf("Enter %d elements: ", count);
  for(i=0;i<count;i++)
    scanf("%d",&number[i]);

  quicksort(number,0,count-1);

  printf("Order of Sorted elements: ");
  for(i=0;i<count;i++)
    printf(" %d",number[i]);

  return 0;
}
```

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Factorial using recursion:

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

```
{
    int n;
    scanf("%d",&n);
    printf("Factorial of %d = %d",n,fact(n));
}
int fact(int n)
{
    if(n==1)
        return 1;
    else
        return n*fact(n-1);
}
```