```c
**********
#include <stdio.h>
int left_to_right=1;
int right_to_left=0;

int searcharr(int a[],int n, int mob){
    int i;
    for(i=0;i<n;i++){
        if(a[i]==mob)
        return i+1;
    }
    return 0;
}

int getmobile(int a[], int dir[],int n){
    int mob_prev=0,mob=0,i;
    for(i=0;i<n;i++){
        if(dir[a[i]-1]==right_to_left && i!=0){
            if(a[i]>a[i-1]&&a[i]>mob_prev){
                mob=a[i];
                mob_prev=mob;
            }
        }
        if(dir[a[i]-1]==left_to_right && i!=n-1){
            if(a[i]>a[i+1]&&a[i]>mob_prev){
                mob=a[i];
                mob_prev=mob;
            }
        }
    }
    if(mob==0&&mob_prev==0)
    return 0;
```

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```
    return 0;
    else
    return mob;
}

int printoneperm(int a[], int dir[],int n){
    int mob,pos,temp,i;
    mob=getmobile(a,dir,n);
    pos=searcharr(a,n,mob);
    if(dir[a[pos-1]-1]==right_to_left){
        temp=a[pos-1];
        a[pos-1]=a[pos-2];
        a[pos-2]=temp;
    }
    else if(dir[a[pos-1]-1]==left_to_right){
        temp=a[pos];
        a[pos]=a[pos-1];
        a[pos-1]=temp;
    }
    for(i=0;i<n;i++){
        if(a[i]>mob){
            if(dir[a[i]-1]==left_to_right)
            dir[a[i]-1]=right_to_left;
            else if(dir[a[i]-1]==right_to_left)
            dir[a[i]-1]=left_to_right;
        }
    }
    for(i=0;i<n;i++){
        printf("%d",a[i]);
    }
    printf("    ");
    return 0;
}



void printpermutaions(int n){
    int a[n],i;
```

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```
            if(dir[a[i]-1]==left_to_right)
            dir[a[i]-1]=right_to_left;
            else if(dir[a[i]-1]==right_to_left)
            dir[a[i]-1]=left_to_right;
        }
    }
    for(i=0;i<n;i++){
        printf("%d",a[i]);
    }
    printf("    ");
    return 0;
}


void printpermutaions(int n){
    int a[n],i;
    int dir[n];
    for(i=0;i<n;i++){
        a[i]=i+1;
        printf("%d",a[i]);
    }
    printf("   ");
    for(i=0;i<n;i++)
    dir[i]=right_to_left;
    while(getmobile(a,dir,n)!=0)
    printoneperm(a,dir,n);
}

int main(){
    int n;
    printf("Enter the number\n");
    scanf("%d",&n);
    printf("The Permutations are : \n");
    printpermutaions(n);
    printf("\n");
    return 0;
}
```

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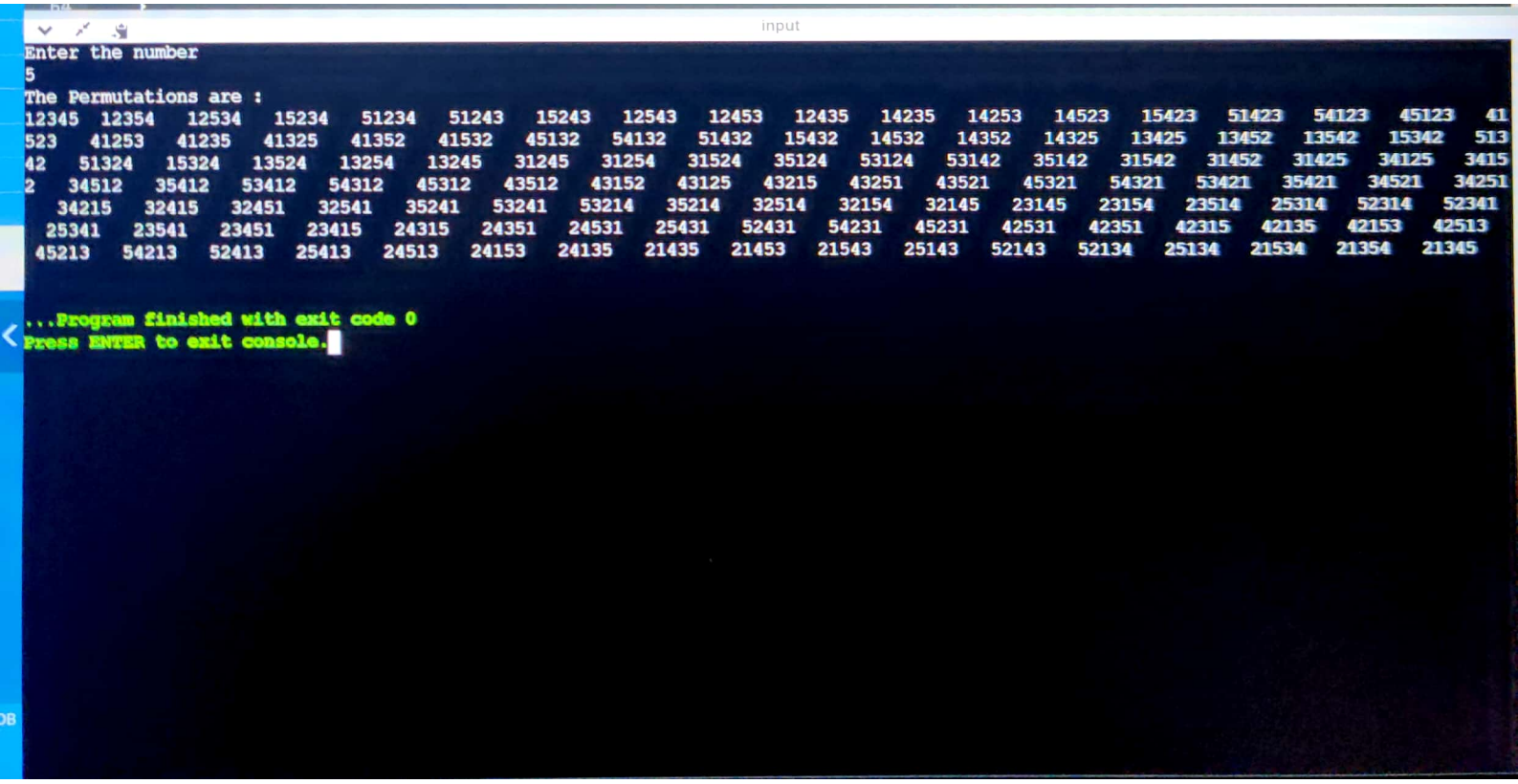

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