

PROGRAM-6-2

```
#include <stdio.h>

#include <conio.h>

int NN, i, count=0;

int p[100], pi[100];

int dir[100];

void PrintPerm(){

    int i;

    count = count + 1;

    printf( "[%2d] ", count );

    for (i=1; i <= NN; ++i)

        printf( "%d", p[i] );

}

void PrintTrans( int x, int y ){

    printf( " (%d %d)", x, y );

    printf( "\n" );

}

void Move( int x, int d ){

    int z;

    PrintTrans( pi[x], pi[x]+d );

    z = p[pi[x]+d];
```

```
p[pi[x]] = z;
```

```
p[pi[x]+d] = x;
```

```
pi[z] = pi[x];
```

```
pi[x] = pi[x]+d;
```

```
}
```

```
void Perm ( int n ){
```

```
int i;
```

```
if (n > NN)
```

```
PrintPerm();
```

```
else{
```

```
Perm( n+1 );
```

```
for (i=1; i<=n-1; ++i){
```

```
Move( n, dir[n] );
```

```
Perm( n+1 );
```

```
}
```

```
dir[n] = -dir[n];
```

```
}
```

```
}
```

```
int main(){
```

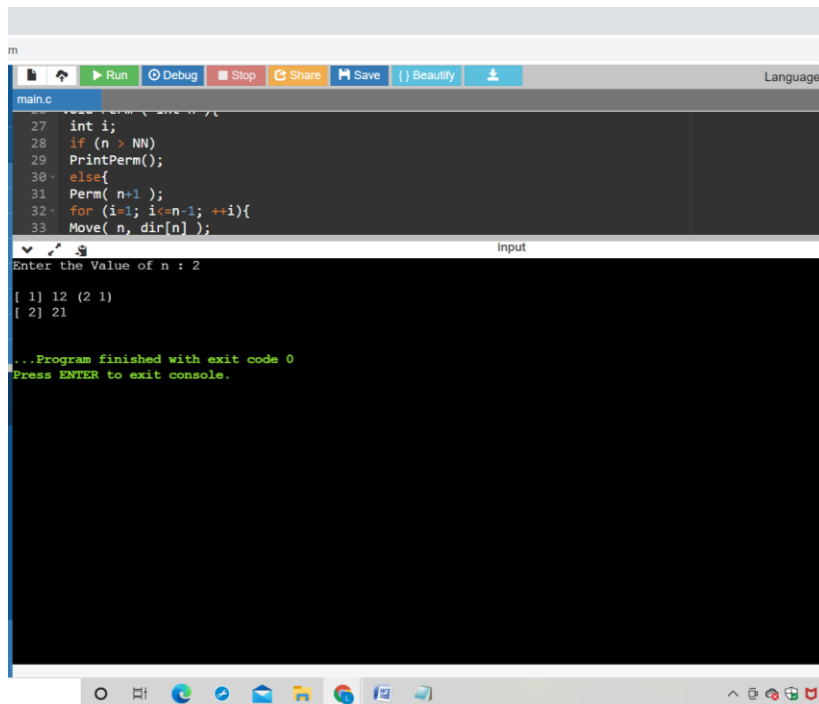
```
printf( "Enter the Value of n : " );
```

```
scanf( "%d", &NN );
```

```
printf( "\n" );
```

```
for (i=1; i<=NN; ++i){  
  
    dir[i] = -1; p[i] = i;  
  
    pi[i] = i;  
  
}  
  
Perm ( 1 );  
  
printf( "\\n" );  
  
return 0;  
}
```

OUTPUT-



The screenshot shows a C++ IDE with a code editor and a console window. The code in the editor is as follows:

```
main.c  
27 int i;  
28 if (n > NN)  
29     PrintPerm();  
30 else  
31     Perm( n+1 );  
32 for (i=1; i<=n-1; ++i){  
33     Move( n, dir[n] );
```

The console window shows the following output:

```
Enter the Value of n : 2  
[ 1] 12 (2 1)  
[ 2] 21  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```