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Aranjamente de n elemente luate câte k

$$A_n^k = n(n-1) \cdot ... \cdot (n-k+1)$$

$A = \{a, b, c\}$

$n = 3; k = 2$

$\{a, b\}$

$\{a, c\}$

$\{b, c\}$

$\{b, a\}$

$\{c, a\}$

$\{c, b\}$

$$A_3^2 = 3 \cdot 2 = 6$$

```cpp
#include<iostream>
using namespace std;
int n,p,v[50],vk,bun ,k;

void init ()
{
   v[p]=0;
}



int urm ()
{
   if(v[p]<n)
        {
        v[p]++;
        return 1;
        }
   else return 0;
}
```

```cpp
int verif ()
{
int i;
for (i=1;i<p;i++)
     if(v[i]== v[p])return 0;
                  return 1;
}



int sol()
{
  return p==k;
}



void tip()
{
int i;
for (i=1;i<=k;i++)
        cout<<v[i]<<" ";
cout<<endl;
}
```

```
void backtr()
{
p=1;
init ();
while(p>0)
        {
      vk=1;
      bun =0;
              while(vk && !bun )
              {
              vk=urm ();
              if(vk)
              bun =verif ();
              }
      if(vk)
         if(sol())
              tip();
         else
              {
              p++;
              init ();
              }
      else p--;
      }
}
```

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```cpp
int main()
{
cout<<"n= "; cin>>n;
cout<<"k= "; cin>>k;
backtr();
}
```

```
n= 3
k= 2
1  2
1  3
2  1
2  3
3  1
3  2
```