using System;

namespace SubSet\_of\_Length\_2

{

class Program

{

static int EnterIntVal(string name)

{

string val;

int v;

do

{

Console.Write(name + " = ");

val = Console.ReadLine();

} while (!(int.TryParse(val, out v) && v > 1));

return v;

}

static void Print(string[] set, bool last)

{

Console.Write("{ ");

for (int i = 0; i < set.Length; i++)

{

Console.Write("{0}", set[i].ToString());

if (i < set.Length - 1) Console.Write(", ");

else Console.Write(" }");

}

if (!last) Console.Write(", ");

else Console.WriteLine();

}

static string[] subSet1 = new string[1];

static void SubSetLengthOfOne(string[] set, int crntElement, int nextElement)

{

if (crntElement + nextElement == set.Length)

{

//if (crntElement <= set.Length - 1) SubSetLengthOfOne(set, crntElement + 1, 0);

return;

}

subSet1[0] = set[crntElement + nextElement];

bool lastElement = (crntElement + nextElement < set.Length - 1) ? false : true;

Print(subSet1, lastElement);

SubSetLengthOfOne(set, crntElement, nextElement + 1);

}

static string[] subSet2 = new string[2];

static void SubSetLengthOfTwo(string[] set, int crntElement, int nextElement)

{

if (crntElement + nextElement == set.Length)

{

if(crntElement <= set.Length - 2) SubSetLengthOfTwo(set, crntElement + 1, 1);

return;

}

subSet2[0] = set[crntElement];

subSet2[1] = set[crntElement + nextElement];

bool lastElement = (crntElement < set.Length - 2) ? false : true;

Print(subSet2, lastElement);

SubSetLengthOfTwo(set, crntElement, nextElement + 1);

}

static string[] subSet3 = new string[3];

static void SubSetLengthOfThree(string[] set, int crntElement, int nextElement)

{

if (crntElement + nextElement + 1 == set.Length)

{

if (crntElement <= set.Length - 3) SubSetLengthOfThree(set, crntElement + 1, 1);

return;

}

subSet3[0] = set[crntElement];

subSet3[1] = set[crntElement + nextElement];

for (int i = nextElement + 1; i + crntElement < set.Length; i++)

{

subSet3[2] = set[crntElement + i];

bool lastElement = (crntElement < set.Length - 3) ? false : true;

Print(subSet3, lastElement);

}

SubSetLengthOfThree(set, crntElement, nextElement + 1);

}

static void Main()

{

int s = EnterIntVal("s");

string[] set = new string[s];

for (int i = 0; i < s; i++) set[i] = i.ToString();

Print(set, true);

SubSetLengthOfOne(set, 0, 0);

SubSetLengthOfTwo(set, 0, 1);

SubSetLengthOfThree(set, 0, 1);

}

}

}

static string[] subSet1 = new string[1];

static void SubSetLengthOfOne(string[] set, int crntElement, int nextElement)

{

if (crntElement + nextElement == set.Length)

{

//if (crntElement <= set.Length - 1) SubSetLengthOfOne(set, crntElement + 1, 0);

return;

}

subSet1[0] = set[crntElement + nextElement];

bool lastElement = (crntElement + nextElement < set.Length - 1) ? false : true;

Print(subSet1, lastElement);

SubSetLengthOfOne(set, crntElement, nextElement + 1);

}

static string[] subSet2 = new string[2];

static void SubSetLengthOfTwo(string[] set, int crntElement, int nextElement)

{

if (crntElement + nextElement == set.Length)

{

if(crntElement <= set.Length - 2) SubSetLengthOfTwo(set, crntElement + 1, 1);

return;

}

subSet2[0] = set[crntElement];

subSet2[1] = set[crntElement + nextElement];

bool lastElement = (crntElement < set.Length - 2) ? false : true;

Print(subSet2, lastElement);

SubSetLengthOfTwo(set, crntElement, nextElement + 1);

}

static string[] subSet3 = new string[3];

static void SubSetLengthOfThree(string[] set, int crntElement, int nextElement)

{

if (crntElement + nextElement + 1 == set.Length)

{

if (crntElement <= set.Length - 3) SubSetLengthOfThree(set, crntElement + 1, 1);

return;

}

subSet3[0] = set[crntElement];

subSet3[1] = set[crntElement + nextElement];

for (int i = nextElement + 1; i + crntElement < set.Length; i++)

{

subSet3[2] = set[crntElement + i];

bool lastElement = (crntElement < set.Length - 3) ? false : true;

Print(subSet3, lastElement);

}

SubSetLengthOfThree(set, crntElement, nextElement + 1);

}