/\*Write a C Program to Generate All the Set Partitions of n Numbers Beginning from 1 and so on\*/

#include<stdio.h>

void printArray(int p[], int n)

{

for (int i = 0; i < n; i++)

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

printf("\n");

}

void partition(int n)

{

int p[n], true=1;

int k = 0;

p[k] = n;

while (true)

{

printArray(p, k+1);

int rem\_val = 0;

while (k >= 0 && p[k] == 1)

{

rem\_val += p[k];

k--;

}

if (k < 0) return;

p[k]--;

rem\_val++;

while (rem\_val > p[k])

{

p[k+1] = p[k];

rem\_val = rem\_val - p[k];

k++;

}

p[k+1] = rem\_val;

k++;

}

}

int main()

{

int n;

printf("Enter the number: ");

scanf("%d",&n);

partition(n);

return 0;

}