**APS Lab\_2023**

**Evaluation 2**

**F4 Batch**

**Note:** Your program must use ‘**greedy approach’** to solve this problem

**Question:**

The task is to find the smallest number with given sum of digits as **SUM**and number of digits as **N.** Your program must take the two integers **SUM** and **N** and returns a string which is the smallest number if possible, else return "-1".

**Time Complexity Desired:** O(N)

**Test cases:**

**Test Case # 1**

**Input:**

SUM = 9

N = 2

**Output:**

18

**Test Case # 2**

**Input:**

SUM = 20

N = 3

**Output:**

299

My Approach

The approach is to use the priority queue because its very easy to use it and will give best time complexity .now if we want the out put to be the smallest then first digit should be smallest and then second digit should be smallest so I find the smallest digit and just put them in string accordiung to the approach

**SOLUTION**

#include <iostream>

using namespace std;

int main()

{

int sum=9;

int n=2;

int arr[]={0,1,2,3,4,5,6,7,8,9};

int counti=0;

for (int i=0;i<9;i++){

for (int j=0;j<9;j++){

if (i+j==sum)

cout<<i<<j;

counti++;

}

if (counti==1)

break;

cout<<endl;

}

return 0;

}

/\* cout<<"Enter the Number of digits :";

cin>>n;

priority\_queue<int>out

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

{

out.push(i)

}

int out=0;

int ind=out.top()

if (arr[ind]<sum)

sum-=

else

return 0;

}

\*/

