

## 121. Subset Generation

AIM: To find the Subset Generation by using backtracking

PROGRAM:

```
def subsets(nums):  
    """ Function to generate all subsets using backtracking """  
    result = []  
    subset = []  
    def backtrack(start):  
        result.append(subset[:])  
        for i in range(start, len(nums)):  
            subset.append(nums[i])  
            backtrack(i + 1)  
            subset.pop()  
    backtrack(0)  
    return result  
nums = [1, 2, 3]  
print("Subsets of", nums, ":")  
print(subsets(nums))
```

```
Subsets of [1, 2, 3] :  
[[], [1], [1, 2], [1, 2, 3], [1, 3], [2], [2,  
    3], [3]]
```

OUTPUT:

TIME COMPLEXITY:  $O(2^{N*N})$