

## 120. Subset Generation

Code:

```
def subsets_bit_manipulation(nums):
```

```
    n = len(nums)
```

```
    output = []
```

```
    for i in range(2**n):
```

```
        subset = []
```

```
        for j in range(n):
```

```
            if (i >> j) & 1:
```

```
                subset.append(nums[j])
```

```
        output.append(subset)
```

```
    return output
```

```
nums = [1, 2, 3]
```

```
print(subsets_bit_manipulation(nums))
```

output:

```
PS C:\Users\karth>
PS C:\Users\karth> & C:/Users/karth/AppData/Local/Programs/Python/Python312/python.exe c:/Users/karth/OneDrive/Documents/OriginLab/problem.py
[[], [1], [2], [1, 2], [3], [1, 3], [2, 3], [1, 2, 3]]
PS C:\Users\karth>
```

Time complexity: $f(n)=o(n)$