

## → VECTOR

11

→ Initializing a vector.

```
VECTOR <INT> V;
```

```
INT N;
```

```
CSN >> N;
```

```
FOR (INT i=0; i<n; i++)
```

```
{
```

```
    INT x;
```

```
    CSN >> x;
```

```
    // Taking values in vector
```

```
    V.PUSH-BACK(x); // O(1)
```

```
}
```

→ Removes last element from the vector.

```
V.POP-BACK();
```

→ Copying a vector in another vector.

```
VECTOR<INT> V0 = V; // O(n)
```

→ Printing vector size.

```
cout << "size" << V.size() << "\n"; O(1)
```

→ Printing vector.

```
FOR (INT i=0; i < V.size(); i++)  
{  
    cout << V[i] << " ";  
}
```

// This will initialize a 10 size vector with all 0 values.

```
VECTOR<INT> V1(10); // {0,0,0,0,0,0,0,0,0,0}
```

// This will initialize a 10 size vector with all 3 values.

```
VECTOR<INT> V2(10, 3); // {3,3,3,3,3,3,3,3,3,3}
```

**NOTE:** When we pass a vector in a function like this `VECTOR<INT> V`, it is passed by value (which means it makes a copy of it there), but we should not do that because copying a vector takes  $O(n)$  time. So, we should pass it by reference like this `VECTOR<INT> &V` it takes  $O(1)$  time to pass a reference of vector.