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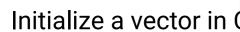n

Initialize a vector in C   t ways)

Following are different ways to create and initialize a vector in C++ STL

Initializing by pushing values one by one :

```cpp
// CPP program to create an empty vector
// and push values one by one.
#include <bits/stdc++.h>
using namespace std;

int main()
{
    // Create an empty vector
    vector<int> vect;

    vect.push_back(10);
    vect.push_back(20);
    vect.push_back(30);

    for (int x : vect)
        cout << x << " ";

    return 0;
}
```

Output:

```
10 20 30
```

Specifying size and initializing all values :

```cpp
// CPP program to create an empty vector
// and push values one by one.
#include <bits/stdc++.h>
using namespace std;

int main()
{
    int n = 3;

    // Create a vector of size n with
    // all values as 10.
    vector<int> vect(n, 10);

    for (int x : vect)
        cout << x << " ";

    return 0;
}
```

Output:

```
10 10 10
```

Initializing like arrays :

```cpp
// CPP program to initialize a vector like
// an array.
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int> vect{ 10, 20, 30 };

    for (int x : vect)
        cout << x << " ";

    return 0;
}
```

Output:

```
10 20 30
```

Initializing from an array :

```cpp
// CPP program to initialize a vector from
// an array.
#include <bits/stdc++.h>
using namespace std;

int main()
```

```cpp
{
    int arr[] = { 10, 20, 30 };
    int n = sizeof(arr) / sizeof(arr[0]);

    vector<int> vect(arr, arr + n);

    for (int x : vect)
        cout << x << " ";

    return 0;
}
```

Output:

```
10 20 30
```

Initializing from another vector :

```cpp
// CPP program to initialize a vector from
// another vector.
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int> vect1{ 10, 20, 30 };

    vector<int> vect2(vect1.begin(), vect1.end());

    for (int x : vect2)
        cout << x << " ";

    return 0;
}
```

Output:

```
10 20 30
```

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