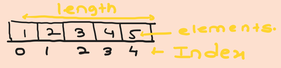
ARRAY

- Data structure which stores a collection of homogeneous items
- They have contigeous memory



Syntax:-

```
datatype  array-name [ size ]
```

```
int array [5] = { a,b,c,d,e };
```

Array type:-

1. single dimensional
2. multidimensional

1. Single dimensional array

- 0 index base

how to find size of array

→

```
int main()
{
    int array [ ]: {1,2,3,4,5}

    cout <<" size" << sizeof (array) << endl;

      length :-
            sizeof (array) / size of (array [0])

     return 0;
}
```

- Traversing in array

```
int main()
{
    int array [ ]: {1,2,3,4};

    For( int i=0 ; i< (n-1) ; i++)
    {
        cout << array [i] ;
    }
}
```

// for each

```
For (int ele : array)
{
    cout << ele << endl;
}
```

// while loop

```
int index = 0 ;
While ( index < size)
{
    cout << array [index];
    index ++ ;
}
```

- Taking input from user.

For loop:-

```
int main()
{
    char vowels [5]

    For (int i=0 ; i<5 ; i++)
    {
        cin >> vowels [i] ;
    }

    for (int i=0 ; i<5 ; i++)
    {
        cout <<"array of vowels" << vowels [i] <<" ";
    }
}
```

for each

we travel through every element in array so we can give datatype of element insted of giving datatype of index.

```
for ( char & element : vowels)
{
      cin >> element ;
}

for( int i=0; i<5 ; i++)
{
    cout << vowels [i] <<" ";
}
```