

Class 9



① Arrays in C

② Pointers in C

Arrays:

Ex. Need: Store 100 student's name with
roll number. 001 -- 100

char c = 'A';

"Hello World"
0 ← 10
11 chars (0 - 10)

→ Array of char.

char s[11] = "Hello World"; length = 11

→ 0	-	H	6	-	W
1	-	e	7	-	o
2	-	l	8	-	r
3	-	l	9	-	l
4	-	o	10	-	d
5	-				



11 characters

```
int even[11];
```

```
even[0] = 2;
```

```
even[1] = 4;
```

```
⋮
```

```
even[10] = n;
```

```
for (i = 0; i < 11; i = i + 1)
```

```
{
```

```
    even[i] = ...
```

```
}
```

a

0	1	2	3	4	5	6	7	8	9
0	8	16	24	32					

```
for (int i=0; i<10; i++) {
    a[i] = i * 8;
}
```

0 ... 9

$i = 5$ ←

$a[5]$

```
for (j=0; j<10; j++) {
    printf("%d", a[j]);
}
```

Format Strings:

→ Used to construct a string programmatically.

%d	—	Integer	} Basics.
%l	—	long	
%c	—	char	
%s	—	string	
%f	—	float	

("The value is ~~8~~", 10)

$\rightarrow 8$

The value is 8

Pointers:

```
int i = 10;
```

```
int *p = &i;
```

type	var	addr	value
int	i	0x001	10
int*	p	0x002	0x001

```
printf("%d", i);
```

```
printf("%p", &i);
```

```
printf("%d", p);
```

```
printf("%p", &p);
```

```
printf("%d", *p);
```

⇒ 10