

Linguagens de Programação 1

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<http://github.com/fsantanna-uerj/LP1>

Vetores
Arrays
Strings

Vetores

```
int xs[4];
```

```
int ys[4];
```

```
printf("%p %p\n", &xs, &ys);
```

```
printf("%p %p %p %p %p %p\n",  
       xs, xs+0, xs+1, xs+2, xs+3, xs+4);
```

endereço	id	valor
	xs	
	ys	
	...	

Vetores

```
int xs[4];
```

```
int ys[4];
```

```
*(xs+3) = 10; // xs[3]=10
```

```
printf("%d\n", xs[3]);
```

```
printf("%p %p\n", (xs+3), &xs[3]);
```

```
scanf("%d", &xs[1]);
```

endereço	id	valor
	XS	
	YS	
	...	

Arrays

- Vetor: array de dimensão 1
 - `int vs[2];`
- C também suporta arrays de múltiplas dimensões
 - `int vs[3][2];`
 - 3 linhas e 2 colunas

Arrays

```
int vs[3][2] = { {1,2},{3,4},{5,6} };  
printf("%d %d\n", vs[0][1], vs[1][0]);  
printf("%p %p\n", &vs, &vs[0][0]);  
printf("%p\n",      &vs[0][1]);  
printf("%p\n",      &vs[1][0]);
```

endereço	id	valor
	VS	

Strings

```
char s1[] = "abc";
```

```
char s2[] = "def";
```

```
printf ("%s/%s\n", s1, s2);
```

```
printf ("%d\n", strlen(s1));
```

```
printf ("%d %d %d %d %d\n",  
        s1[0], s1[1], s1[2], s1[3], s1[4]);
```

endereço	id	valor
	s1	

Strings

```
char s1[] = "abc";
```

```
char s2[4];
```

```
char s2[0] = 'a';
```

```
char s2[1] = 'b';
```

```
char s2[2] = 'c';
```

```
char s2[3] = '\0'; // 0
```

```
printf("%s/%s\n", s1, s2);
```