Visão geral do loop

Vetor unitário
Escalar

1°

input   1   □

loop

output   1   □

acessar
elementos
em vetor

n   1
    2
    3
    4

* indexação

loop

1   □

Criar e
modificar
elementos
em vetor

n   1
    2
    3
    4

loop

n
1   □
2
3
4

1
2   □

1
2
3
4
5

```
10  # Estratégia 1: Criar vetor
11  vet_quad <- c()
12  for (i in 1:length(vetor)) {
13    quad <- vetor[i]^2
14    vet_quad <- c(vet_quad, quad)
15  }
16  vet_quad
17  |
```

$$vetor = (1, 2, 34, 2, 2)$$

$$vet\_quad = (\quad) \quad \to vetor\ vazio\ |\ vetor\ nulo$$

$$(1, 2, 3, 4, 5) \times$$

$i = 1$

quad = vetor[1] = 1^2 = 1

vet quad = $((\ ), 1) = (1)$

$i = 2$

quad = vetor[2] → $2^2 = 4$

vet quad = $(1, 4)$

$i = 3$

quad = vetor[3] → $34^2 = 1156$

vet quad = $(1, 4, 1156)$

$i = 4$

quad = vetor[4] → $12^2 = 144$

vet quad = $(1, 4, 1156, 144)$

$i = 5$

quad = vetor[5] → $2^2 = 4$

vet quad = $(1, 4, 1156, 144, 4)$

$$1, 4, 1156, 144, 4$$

```
19  # Estratégia 2: Modificar vetor
20  vetor <- c(1, 2, 34, 12, 2)
21  vet_quad <- vector("numeric", length(vetor))
22  for (i in 1:length(vetor)) {
23      quad <- vetor[i]^2
24      vet_quad[i] <- quad
25  }
26  vet_quad
```

$$\text{vetor} = (1, 2, 34, 12, 2)$$
$$1 \quad 2 \quad 3 \quad 4 \quad 5$$

$$\text{vet quad} = (0, 0, 0, 0, 0)$$
$$1 \quad 2 \quad 3 \quad 4 \quad 5$$

$$(1, 2, 3, 4, 5)$$

$i = 1$

$\text{quad} = \text{vetor}[1] \rightarrow 1^2 = 1$

$\text{vet quad} = (0, 0, 0, 0, 0)$
$(1, 0, 0, 0, 0)$

$i = 2$

$\text{quad} = \text{vetor}[2] \rightarrow 2^2 = 4$

$\text{vet quad} = (1, 0, 0, 0, 0)$
$(1, 4, 0, 0, 0)$

$i = 3$

$\text{quad} = \text{vetor}[3] \rightarrow 34^2 = 1156$

$\text{vet quad} = (1, 4, 0, 0, 0)$
$(1, 4, 1156, 0, 0)$

$i = 4$

$\text{quad} = \text{vetor}[4] \rightarrow 12^2 = 144$

$\text{vet quad} = (1, 4, 1156, 0, 0)$
$(1, 4, 1156, 144, 0)$

$i = 5$

$\text{quad} = \text{vetor}[5] \rightarrow 2^2 = 4$

$\text{vet quad} = (1, 4, 1156, 144, 0)$
$(1, 4, 1156, 144, 4)$

$$1 \quad 4 \quad 1156 \quad 144 \quad 4$$