# Comparison of representation sizes for storing a fixed-width field of n bits

**Using `boolean []`:**

**Total storage size:** n bits for n "bits" *

| 0 | 0 | 1 | 1 | 0 | 1 | ... |

*\* assuming a "packed" representation*

**Using `ArrayList<String>`:**

**Total storage size:** $\geq 104n+64$ bits for n "bits"

**Other possibilities:**

- `char []`
- `int []`
- `ArrayList<Integer>`
- `ArrayList<Boolean>`
- ...

**ArrayList** object

*32 bits per "bit"*

int ☐

internal array (of **String**s)

| ● | ... | ● | ... | ... |

*64+ bits overhead*

**String** object

int ☐

●

internal array
(of **Char**s)

`'0'`

*72+ bits per "bit"*

**String** object

int ☐

●

internal array
(of **Char**s)

`'1'`