String Builder

- immutable (can't be updated)

String str = "a";

str = str + "c" ~> "ac"

str = str + "c" ~> "acc" ✓

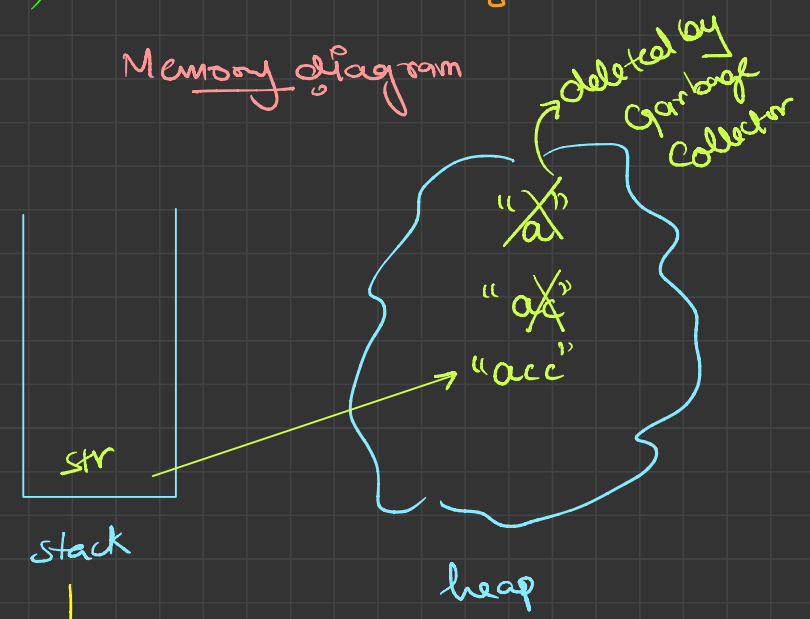
str = str + "i" ~> "acci"

str = str + "o" ~> "accio"

{ since in Java } ✓

1. In each step we are creating a new string
2. Time Consuming

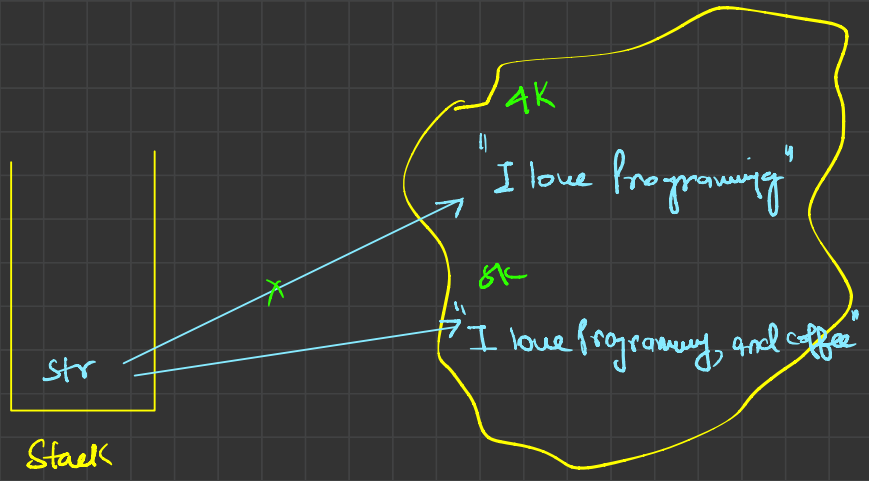
Memory diagram



all the variables & fun are stored here

str = "I love Programing"

✓ str = str + ", and coffee" ; TC : O(N)

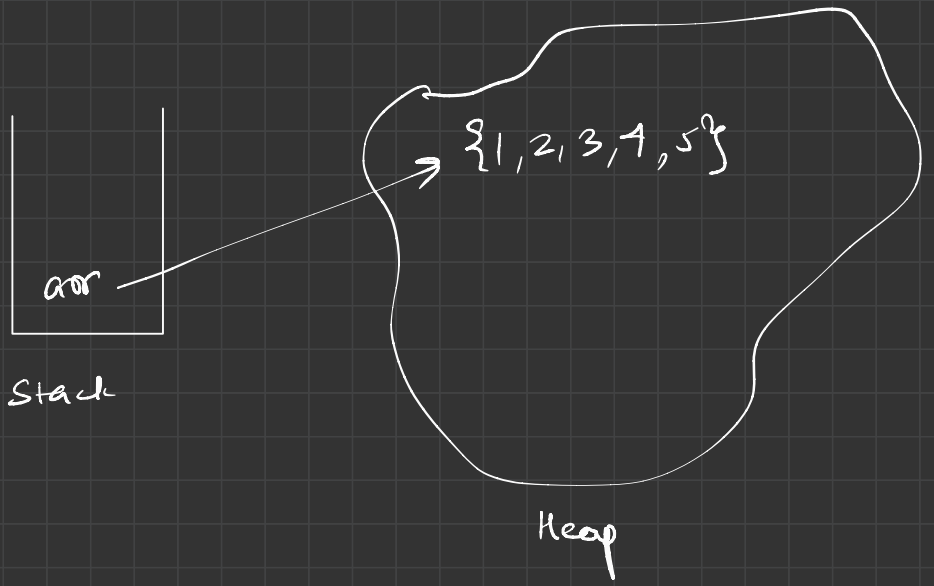


ArrayList

✓ arr = {1, 2, 3, 4}

✓ arr.add(5);

TC: O(1)

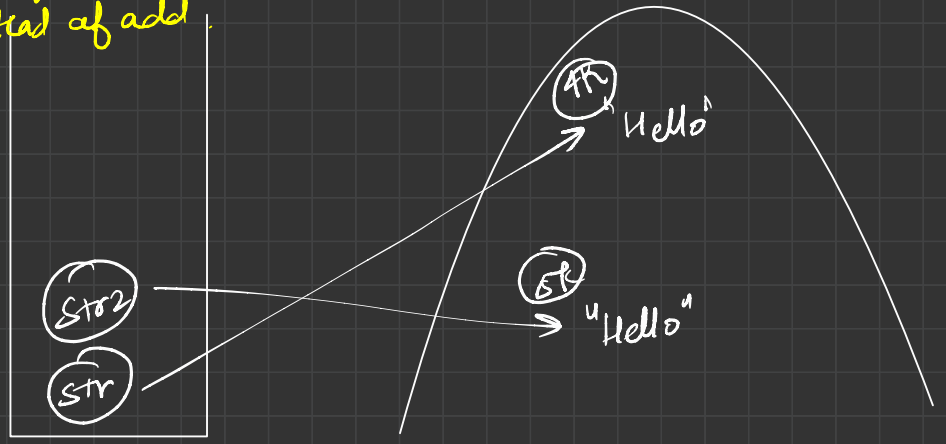


- equals()

↓

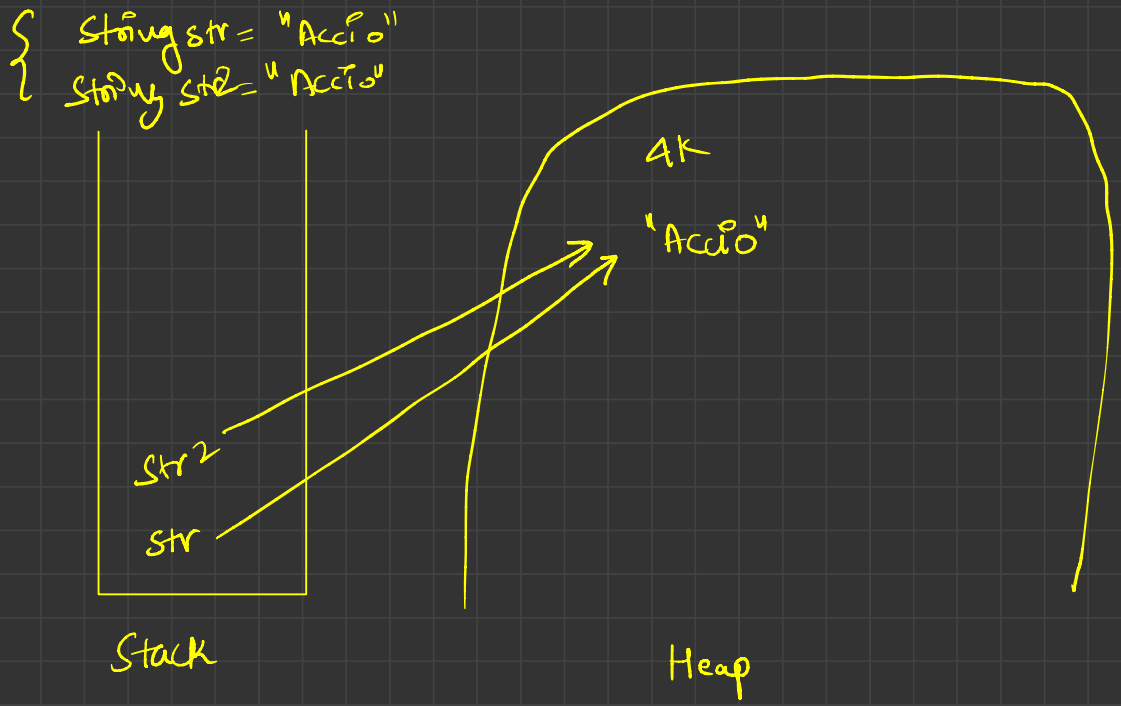
It check string value present, instead of add.

```
String str = new String("Hello");
String str2 = new String("Hello");
```



4k 5k

str == str2 false


{
String str = "Accio"
String str2 = "Accio"
4K
"Accio"
str2
str
Stack
Heap

StringBuilder

- ✓ append will be O(1)
- ✓ mutable

class

✓ StringBuilder sb = new StringBuilder("Accio");

Input in Java

Method 1

```
Scanner scn = new Scanner(System.in)

String str = scn.nextLine();

int a = scn.nextInt();
```

Buffer Reader

```
InputStreamReader in = new InputStreamReader(System.in);
BufferedReader bf = new BufferedReader(in);

String str = bf.readLine();
```