Strings

print ("Hello World")
↳ string

String is a sequence of characters
A-Z a-z 0-9 #, @, *, etc

"abc123" ✓
"abc $" ✗
" 123" ✓
123 ✗

Strings are ALWAYS represented in " "

- String vs Integer
  123 is Integer
  "123" is String

- Strings in computers
  Computers only understand 0's & 1's

A → 50 "A "

ASCII

American Standard Code for Information Interchange

A - 65	a - 97	'0' - 48
B - 66	b - 98	'1' - 49
C - 67	⋮	'2' - 50
⋮		⋮
Z - 90	z - 122	'9' 57

String country = "India"

	0	1	2	3	4
"India" →	['I'	'n'	'd'	'i'	'a']

country.length() → 5

country.charAt(3) → i

Q.1 Given string, print characters line by line

"India" → I
n
d
i
a

```
for( int i=0 ; i < s.length( ); i++ ){
    println( s.charAt(i)
}
```

Q Given string, print ASCII value of characters line by line

"India" → 73
110
100
105
97

- Java can interpret characters as ASCII valued numbers

```
for(int i=0; i<s.length(); i++){
    println((int)s.charAt(i))
}
```

Q Print the count of capital characters

"kjRS78q31@30" → 3

Hint 1: A - Z 65 - 90

```
int ans = 0
for(int i=0; i < s.length(); i++){
    char ch = s.charAt(i)
    if( ch >= 65 && ch <= 90)
        ans++
}
print(ans)
```

Solution 2

```
int ans = 0
for(int i=0; i < s.length(); i++){
    char ch = s.charAt(i)
    if( ch >= 'A' && ch <= 'Z')
        ans++
}
print(ans)
```

Q Print the count of special characters

"kjRS78q31@30" → 1

```
int ans = 0
for(int i=0; i < s.length(); i++){

    char ch = s.charAt(i)
    if( (ch >= 'A' && ch <= 'Z') ||
        (ch >= 'a' && ch <= 'z') ||
        (ch >= '0' && ch <= '9') ){
    }
    else
        ans++

}
print(ans)
```

ans = "!@"

van + r

Q Reverse the string

"Aarnav" → "vanraA"
"Aman" → "namA"

→ Iterate from back to front of the input string

```
String reverse (String s) {
    String ans = ""
    for(int i = s.length()-1 ; i >=0 ; i--){
        ans += s.charAt(i)
    }
    return ans
}
```

ans += s.charAt(i)

String Concatenation

"Oma" + "nsh" = "Omansh"
"nsh" + "Oma" = "nshOma"

Q Check whether string is a palindrome

string is the same as the reverse of the string

Eg = "madam", "racecar", "naman"

Hint: Can we reuse the above function?

```
string s ;

string reverse_s = reverse(s)

if ( s == reverse_s)
    print ("Palindrome")
```

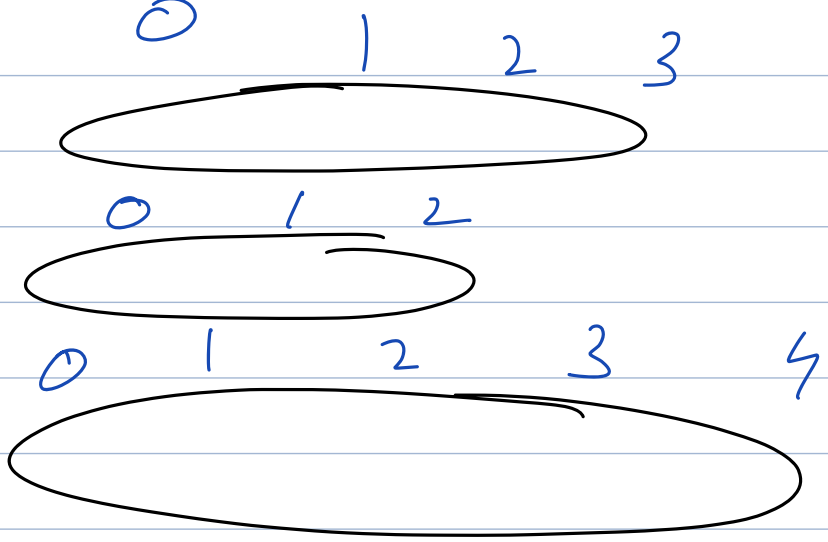
×

== checks if the addresses of the two strings are equal

```
if ( s.equals(reverse_s) )
    print ("Palindrome")
```

✓

.equals only checks if the string content is same



0 1 2 3

0 1 2

0 1 2 3 4