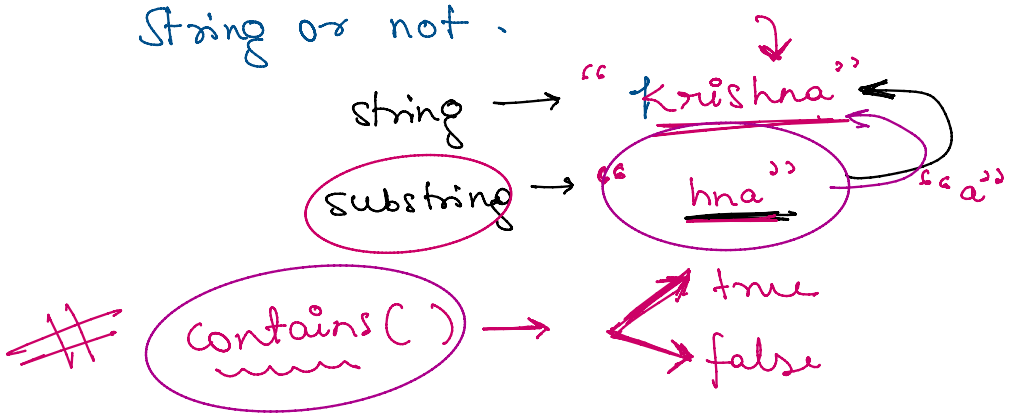
Java DSA Lecture 7

Wednesday, November 23, 2022 7:57 PM

- .equals ( ) ✔
- ==

```
String str1 = "Learn Java";
String str2 = "Learn java";
if(str1 == str2){
    System.out.println("String are equal");
}else{
    System.out.println("String are not equal");
}
```

Check if a substring is present in the String or not.




```
String text = "This is a Java Programming";
String substring = "is a Java";

boolean result = text.contains(substring);
if(result){
    System.out.println("Substring is present");
}else{
    System.out.println("substring is not present");
}
```

true/false

str1.concat(str2);

- contains ( )

```java
String text = "This is a Java Programming";
String substring = "is a Java";

System.out.println(text.contains(substring));
```

true / false

```java
String text = "This is a Java Programming";
String substring = "Hello World";

boolean result = text.contains(substring);
if(result){
    System.out.println("Substring is present");
}else{
    System.out.println("substring is not present");
}
```

Scanner class for character input:

- nextInt()
- nextDouble()
- nextFloat()
- next()
- nextLine()

Hello ~~world~~

- nextChar() ✗

Hello world (whitespace)

Geekster

- next().charAt(0); → 'G'

next() → String

charAt(0) → 'H'

to take input of a character from the user.

```
Scanner scn = new Scanner(System.in);
char ch = scn.next().charAt(0);
System.out.println(ch);
```

0 1 2 3 4 5 6 7
Geeksfor

index → 0

one length character is present in testcases

ASCII Table

{ } linuxhint/>

	Code Char	Code Char	Code Char	Code Char
0	NUL (null)	32 SPACE	64 @	96 `
1	SOH (start of heading)	33 !	65 A	97 a
2	STX (start of text)	34 "	66 B	98 b
3	ETX (end of text)	35 #	67 C	99 c
4	EOT (end of transmission)	36 $	68 D	100 d
5	ENQ (enquiry)	37 %	69 E	101 e
6	ACK (acknowledge)	38 &	70 F	102 f
7	BEL (bell)	39 '	71 G	103 g
8	BS (backspace)	40 (	72 H	104 h
9	TAB (horizontal tab)	41)	73 I	105 i
10	LF (NL line feed, new line)	42 *	74 J	106 j
11	VT (vertical tab)	43 +	75 K	107 k
12	FF (NP form feed, new page)	44 ,	76 L	108 l
13	CR (carriage return)	45 -	77 M	109 m
14	SO (shift out)	46 .	78 N	110 n
15	SI (shift in)	47 /	79 O	111 o
16	DLE (data link escape)	48 0	80 P	112 p
17	DC1 (device control 1)	49 1	81 Q	113 q
18	DC2 (device control 2)	50 2	82 R	114 r
19	DC3 (device control 3)	51 3	83 S	115 s
20	DC4 (device control 4)	52 4	84 T	116 t
21	NAK (negative acknowledge)	53 5	85 U	117 u
22	SYN (synchronous idle)	54 6	86 V	118 v
23	ETB (end of trans. block)	55 7	87 W	119 w
24	CAN (cancel)	56 8	88 X	120 x
25	EM (end of medium)	57 9	89 Y	121 y
26	SUB (substitute)	58 :	90 Z	122 z
27	ESC (escape)	59 ;	91 [	123 {
28	FS (file separator)	60 <	92 \	124 |
29	GS (group separator)	61 =	93]	125 }
30	RS (record separator)	62 >	94 ^	126 ~
31	US (unit separator)	63 ?	95 _	127 DEL

special code

ch + 3

- log table

a → 97

A → 65

Jump of 3

a b c d

a + 3 = d (char)

97 + 3 = 100

A

65 + 3 = 68

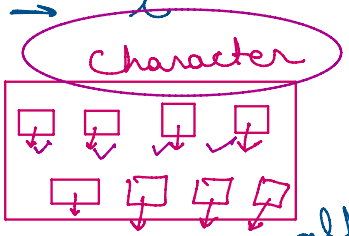
Characters Method ()

boolean

- isLetter() → it determines whether the specified char value is a letter or not.
- isDigit() → char value is digit value
- isWhitespace() → char value has a whitespace or not. (\n \t)
- isUpperCase() → char value is capital or not
- isLowerCase() → char value is small or not

Converting

- toUpperCase() → change / convert small or capital to Capital letter
- toLowerCase() → LowerCase / small case
- toString → 'c' → "c"



isLetter

alphabet

```
System.out.println(Character.isLetter('c'));→ true
System.out.println(Character.isLetter('5'));→ false
System.out.println(Character.isLetter('&'));→ false
```

isDigit

```
System.out.println(Character.isDigit('c'));
System.out.println(Character.isDigit('5'));
System.out.println(Character.isDigit('&'));
```

→ false
→ true
→ false

isWhitespace()

tab ⇒ keyboard
u spacebar

```
System.out.println(Character.isWhitespace('c'));
System.out.println(Character.isWhitespace(' '));
System.out.println(Character.isWhitespace('\n'));
System.out.println(Character.isWhitespace('\t'));
```

→ false
→ true
→ new line → true
→ tab — true

isUppercase()

```
System.out.println(Character.isUpperCase('c'));
System.out.println(Character.isUpperCase('D'));
System.out.println(Character.isUpperCase('K'));
System.out.println(Character.isUpperCase('g'));
```

→ false
— true
→ true
→ false

isLowerCase()

```
System.out.println(Character.isLowerCase('c'));
System.out.println(Character.isLowerCase('D'));
System.out.println(Character.isLowerCase('K'));
System.out.println(Character.isLowerCase('g'));
```

→ true
→ false
→ false
— true

toUpperCase();

```
System.out.println(Character.toUpperCase('c'));
System.out.println(Character.toUpperCase('D'));
System.out.println(Character.toUpperCase('K'));
System.out.println(Character.toUpperCase('g'));
```

→ C
→ D
→ K
→ G

toLowerCase();

```
System.out.println(Character.toLowerCase('c'));
System.out.println(Character.toLowerCase('D'));
System.out.println(Character.toLowerCase('K'));
System.out.println(Character.toLowerCase('g'));
```

→ c
→ d
→ k
→ g

toString();

```
System.out.println(Character.toString('c'));
System.out.println(Character.toString('D'));
System.out.println(Character.toString('K'));
System.out.println(Character.toString('g'));
```

→ "c"
→ "D"
→ "K"
→ "g"

How to convert char to int

- Using ASCII value → - 48

"1" → 1

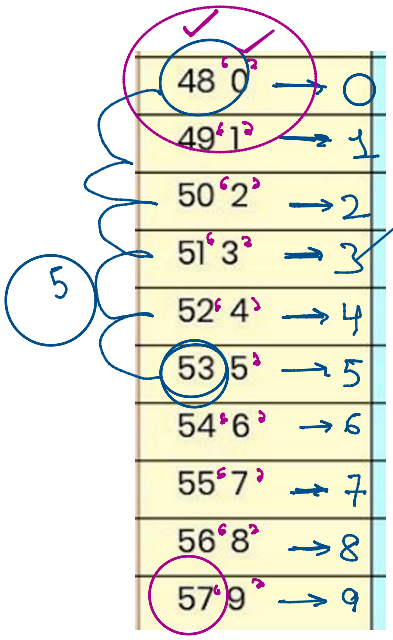
- Using ASCII value
- Character.getNumericValue();
- Bridge Method → char to int
  - using parseInt() method with String.valueOf()
  - char to int by subtracting with '0';

'1' → 1

ascii call

49 - 48

Using ASCII Value




```
char first = '5';
int second = first; // 53
System.out.println("char value: " + first);
System.out.println("ASCII value: " + second);
int num = second - 48; = 5
System.out.println("int value: " + num);
```

'9' 57

53

57-48 = 9

Memory

first = '5'

second = 53

num

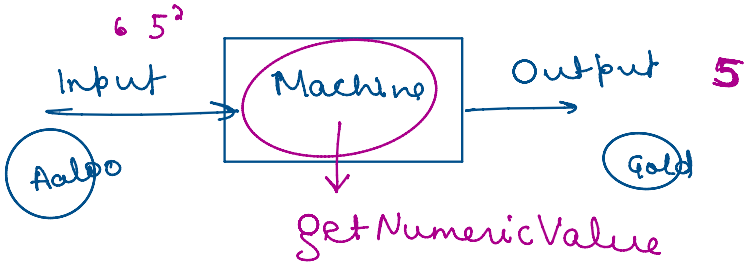
```
char value: 5
ASCII value: 53
int value: 5
```

48

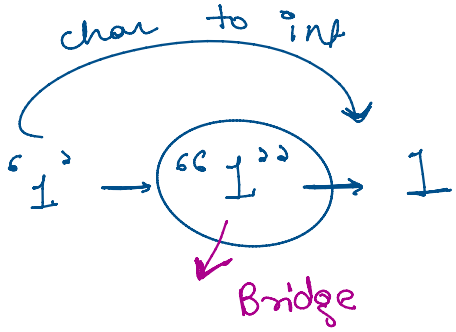
Character.getNumericValue();

```
char first = '5';
System.out.println("char value: " + first);
int second = Character.getNumericValue(first); // '5' -> 5
```

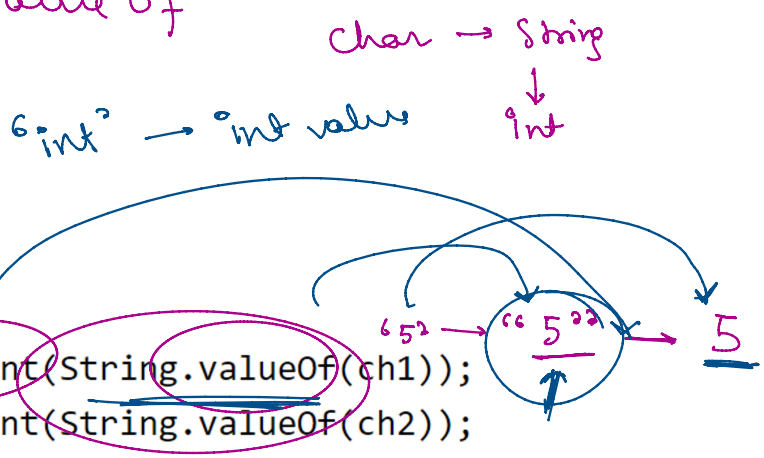
```
int second = Character.getNumericValue(first); // '5' -> 5
System.out.println("int value " + second);
```



Bridge Method



- Integer.parseInt
- String.valueOf




```
char ch1 = '5';
char ch2 = '8';
int num1 = Integer.parseInt(String.valueOf(ch1));
int num2 = Integer.parseInt(String.valueOf(ch2));

System.out.println(num1);
System.out.println(num2);
```

Subtracting with '0';

```
char ch1 = '5';
char ch2 = '8';
```

48	0
49	1

```
char ch2 = '8';

int num1 = ch1 - '0';
int num2 = ch2 - '0';

System.out.println(num1);
System.out.println(num2);
```

48	0
49	1
50	2
51	3
52	4
53	5
54	6
55	7
56	8
57	9