

STRINGS

Strings In Java

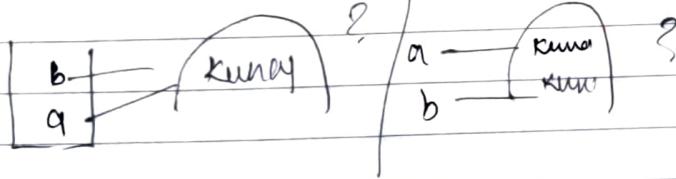
by Kunal Kushwaha

String name =
capital letter class

(ctrl+click) → information (cascade)
object of type string
↓
datatype reference variable

String final is to destroy the immutability
and not to allow others to extend it

String objects are cached in String pool
and makes the string immutable.



Two concepts

use case

→ similar values are not
recreated in pool

→ String pool. → separate memory structure
→ immutability in pool memory



map → separate memory

create, makes program
Optimized

you can't change the object

for string security so

that string can

be extended by user

[new]

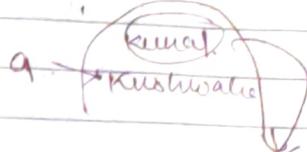
pool
"A"

classmate

Date _____

Page _____

String a = "Kunal"
a = "Kushwaha"



P1 → (Kunal)
P2 → Punal
P3 →

wil be changed for all.

String Comparison

→ 2 ways (==) Equal to method

→

a → "Kunal"
b → "Kunal"

a == Kunal
b ?

a == b

false

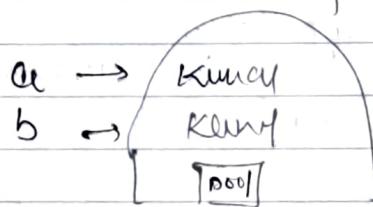
true.

checks if reference variable are pointing
to same object

create a (new) object
(keyword)

String a = new String ("Kunal")

String b = new String ("Kunal")



(==) operator

out.println.equals(name2));
↓
(method)

STRING

Strings In Java

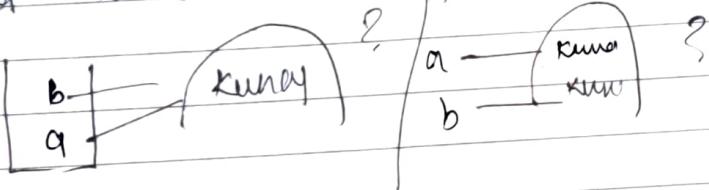
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two concepts

use case

→ similar values are not
repeated in pool

1) String pool. → separate memory structure
2) Immutability → in pool memory



maps → separate memory

create, makes program
optimized

you can't change the object

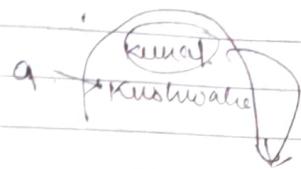
for string security

that string can

be extended by user



String a = "Kunal"
 a = "kushwaha"



P1 → (Kunal)
 P2 → Punal
 P3 → why are changed for all.

garbage collection

String Comparison

→ 2 ways (==) Equal to method

→

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a → Kunal
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a == b

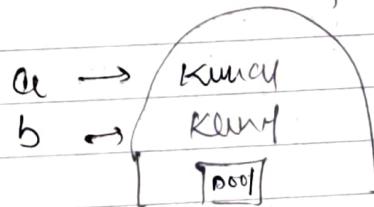
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false

checks if reference variable are pointing
 → to same object

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(==) operator

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 ↓
 (method)

STRING

classmate

Date

Page

Strings In Java.

by kunal kushwaha.

String name =

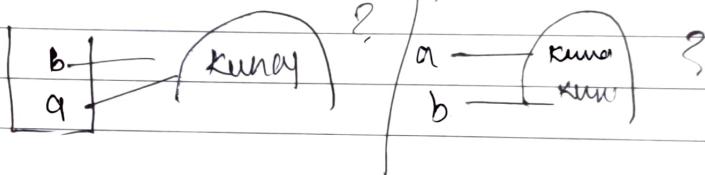
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two concepts

use case

1) String pool. → Separate memory structure

2) Immutability in heap memory



map → separate memory

create, makes program

Optimized

You can't change the object

for String security so

that String can

be extended by user

[name]

pool
"A"

String a = "Kunal"
 a = "Kushwaha"

a → Kunal
 a → Kushwaha

P1
 P2
 P3

(Kunal)
 Punal

wy we changed for all.

garbage
 collection

String Comparison

→ 2 ways (==) Equal → method

→

a → "Kunal"
 b → "Kunal"

a == b

a → Kunal
 b →

True.

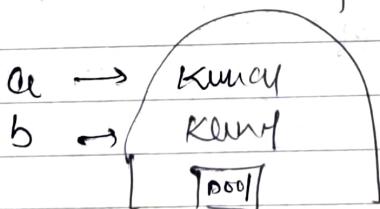
fatal

checks if reference variable are pointing
 to same object

create a (new) object
 (keyword)

String a = new String ("Kunal")

String b = new String ("Kunal")



(==) operator

out.println(name1.equals(name2));

(method)

charAt(0);

0/p K

ctrl

javac →

java filename

stored in
this variable
(String 1 args)

python
javac → executable files located
somewhere in the
computer.

where (javac)

keyword → terminal

returns path of the exe file

(/usr/bin/javac)

ls /user/bin/javac

/user/bin | grep javac

(command)

filter

javac → double click Open
on .exe file

close terminal
user bin , java not found. make sure to
add environment variables.

String valueOf (int i)

.valueOf ()

return Integer.toString (i)

give nice
example

obj .toString ()

This object may have few access
to few functions and methods

(public , private ,
protected ,
final)

give and do it

give and do it

give and do it

give and do it

say no to drugs, also yes to life.

STAR METHOD

SITUATION -

TASK -

ACTION -

RESULT -

Customise response → no 100%
whether you have covered all the

points or not.

How you appear and speak.

→ Expected Interview Questions from website for their company.

→ knowing difference between strengths and skills

→ Job Interview. Research. inborn learning from some where

Mock Interview -

Don't freak out if you make a mistake

Don't take constructive criticisms personally.

Don't try to perform on the spot.

Prepare for the same

Name

Education → college and 8th

Academic Major →

Year Completed →

Internship →
Songwriting Certification

1-2 mins

| | | |
|------------|-------|-----------|
| pix4 | 6 | 6pmo |
| apple | (48)K | (72)K pmw |
| nokia | (13) | 72K |
| Samsung | | (12) 61K |
| LG | | (11) 80K |
| Sony | | |
| Panasonic | | |
| HTC | | |
| Blackberry | | |
| Asus | (5) | 50K |
| | | 6 f2K) |

In Python everything is an ~~means nothing~~
is object object object

Pretty Printing

13/07/22

float a = 153.12345f;

System.out.println(" is %0.2f", a);

which is you can

introduction.

all data

153.12

placeholder.

(rounds off)

you don't mess with placeholders replaced with real

It has

variable
values

any binds.

Ronnie Atten I am %s and I am %, "Swindip",
Walter Rock "cool");

"Hello my name is %s and I am %s", "Swindip", "cool");

Murder mystery

"Swindip", "cool")

Notebook

Twitter or Data

Count down

Twitter
Hacker

Operations in Strings:-

say ('a'+'b') \rightarrow ASCII value, condition
= 195 then add

Sout("a"+b")

2 Leb

→ with strings it's not
connecting

sout('a'+3)

≈ 100

sort((char) ('a'+3))

when ~~it~~ int is converted with a string
is converted to its wrapper class

integer will be converted to `Int32` then will call `String()`;

("a", "t")

"Kunal" + new `ArrayList<()>()`;

Yardley, PA

↓
empty armist

Kunze + new Tüte (56)

↑ works when one of
↑ the operators is primitive
and other is string
string + complex

→ → add

→ concatenate (operator overloading)
operator giving more
functionality.

main (Java) ASA. what is TC/SC

main Springboot

do a project in

- + java operator overriding not supported
- ↳ for code
- ↳ only strings can concatenate
no other random objects

Memory Performance for Strings

String = "", series

String series = "".

```
for (int i=0; i<26; i++)
    char ch = (char) ('a' + i);
    System.out.println(ch)
```

String series = ""

```
for (int i=0; i<26; i++)
    char ch = (char) ('a' + i);
```

series = series +

("a" + 'a')

(aa)

sout (ch);

char char char

char

char

if one of the data
type O/P \Rightarrow a

is string other will be

converted into string.

z

b

c

d

e

not good so

ognats problem

format → defines
actual → while
causing

int n → formal parameter
actual parameter
(main)

if we run this code we can see,

$$"a" + "a" = a$$

$$"a" + "b" = ab$$

$$"ab" + "c" = abc$$

new object is made
every time

because we know in java strings
are immutable.

1 2 3 4 5

a, ab, abc, abcd, abcde, ..., abc...z,

$O(N^2)$

$$1+2+3+4+5+ \dots + n = \frac{n(n+1)}{2} = \frac{(N^2 + N)}{2}$$

$= O(N^2)$

Solution?

We need a datatype which will allow us
to modify a value.

String Builder & separate class.

StringBuilder b = new StringBuilder();

for (int i=0; i<n; i++)

char ch = (char) ('a' + i);

~~builder~~.append(ch)

object

function parameter

(String builder)

methods →

b.append() or (as) sout(b.toString())

b.compareTo()

convert anything to

b.deleteCharAt()

String

b.delete()

b.indexOf()

b.insert() → at particular index

b.replace();

any.length → variable
str.length() → method

manually compare as array
ask interviewer null = true / false

to check whether a string is palindrome or not

```
public class Palin {
    public static void main (String[] args) {
    }
```

String str = " abc dcba ";
System.out.println (str);

```
public boolean isPalindrome (String str) {
    if (str == null || str.length () == 0) {
        return true;
    }
    for (int i = 0; i < str.length () / 2; i++) {
        str = str.substring (i + 1, str.length () - i - 1);
        if (str.charAt (0) != str.charAt (str.length () - 1 - i)) {
            return false;
        }
    }
    return true;
}
```

if (start != end) {
 return false;
}

else {
 return true;
}

9

4

Types of languages

(Procedural)

- can write series of well-structured steps to complete a program (Java, C, C++)
- use systematic array of statements to complete in part.

(Functional)

- function writing language relies on pure functions.
- function to perform computation some auto sort.

(Object oriented)

name >
obj

code + data \rightarrow object
developer: debug, useless and misuse software.
Static vs dynamic language \rightarrow

How does PC know which type is data

Compilation

code \rightarrow machine code (1,1)

Execution

interpreting conversion the programming language should know what is type of the data

start \rightarrow try to check \rightarrow runtime.

int a = "1234" \rightarrow error

int a = 10 \rightarrow error in static
a = "1234" \rightarrow error in language

but runfile strong
on dynamic strong

Compile
Time \rightarrow Run time

Compile time

Runtime
classmate
Date _____
Page _____

Static

vs

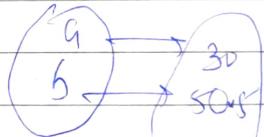
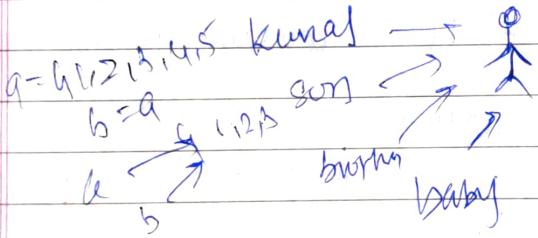
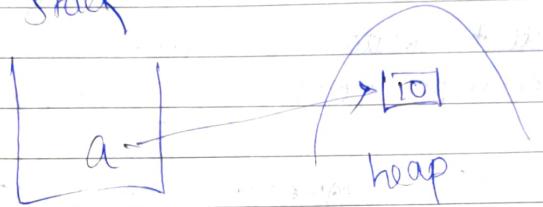
dynamic

- * type checking at compile time
- * errors show at compile time
- * declare datatype before you use it
- * More control

- * type checking at run time
- * errors might not show
- * full program is run
- * No need to declare datatype of variables

same time in writing
code but might not
give error at run time

object
 $a = 10;$
↓
reference variable memory \rightarrow 2 types.
stack



only pass by reference \rightarrow true

if the object was changed by $\textcircled{10}$

One reference variable the
changes will be reflected
to other

reference variable prints
to same object

What happens when we don't have a ref. variable

kunal

baby



→ Object with no reference variable.

garbage collecting

with automatically when it needs to free memory.

$a = 10$

$a = 37$

$a \rightarrow 10$ Gc

$a \rightarrow 37$ ↑

Yanraj

$a = 10$

$a = "kunal"$

$a \rightarrow 10 \rightarrow \text{Gc}$

↑
Final python

FLOWCHARTS

Start / Stop →

input/output →

Processing →

condition →



Solving complex problems

used to visualize, particularly through stories or algorithms

```

int sal;
if sal > 10000
    bonus 2000
else
    bonus 1000

```

start



Input \rightarrow parallelogram

decision
flow



↓ \rightarrow rectangle

start



Input name



Output Hello Name

stop

start



Input salary



if $\{$ salary > 10000 $\}$

Salary > 10000

bonus 2000

$\{$ sal = sal + 1000

$\{$ bonus = 2000 $\}$

$\{$ sal = sal + 2000 $\}$

$\{$ Output salary $\}$

Q. i/p a num. and check if it is prime.

prime signes $1, \dots, n$
 \downarrow
 between number if
 divisible by any number

Start



[INPUT N]



[$C=2$]



if
 $N \cdot C \neq 0$
 $C \neq 0$

if
 $C < N$

[OUTPUT "Prime"]

if
 $N \cdot C \neq 0$
 $C = C + 1$

[$C = C + 1$]

[OUTPUT NOT prime]

Start



[INPUT n]



[$C=2$]



if
 $N \cdot C \neq 0$
 $C = C + 1$

[OUTPUT NOT prime]

PSEUDO CODE & Indentation
Explain algorithm without syntax.

start
 $c=2$
input num
 $c=2$
while $c < num$
 $\quad \quad \quad$ if $num \div c == 0$
(7 tab) \rightarrow output "not prime"
 $c=c+1$
end while
output "prime"

start
input salary
if salary > 10000
 $\quad \quad \quad$ salary = salary + 2000
else
 $\quad \quad \quad$ salary = salary + 1000
output salary
exit
(cancel draw)

Reducing complexity to \sqrt{n} for prime numbers. so.

~~start
input n
if $n <= 1$;
print ("neither prime nor composite")
 $c=2$
while~~

start

if $n \neq 1$ print("neither prime nor composite")
 $c = 2$ while ($c * c \leq n$) $c < \sqrt{n}$ if ($n \% c == 0$)

print("not prime")

else

print("prime")

 $c = c + 1$

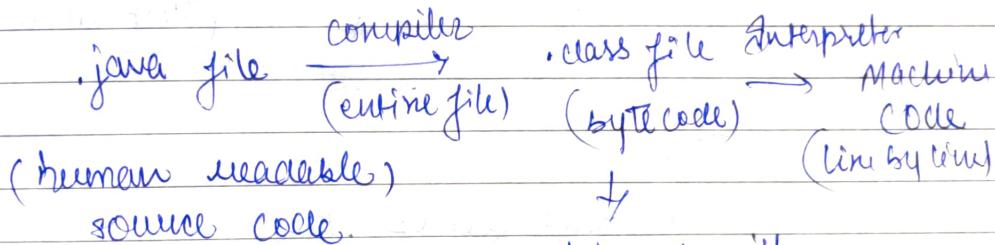
end while

print("Prime");

exit

INTRODUCTION TO JAVA -

How Java code executes



This code will not run directly on a system

We need JVM to run this

Reason why platform is independent

Java / Byte code → Independent
JVM → Platform dependent.

PLATFORM INDEPENDENCE -

- * Byte code can run on any OS.
- * Source code → machine code.
- * Compiler turns it into executable code.
- this .exe code (set of instructions)
- * after compiling C++ code we get .exe file which is platform dependent.
- * in Java we have byte code, JVM converts this to machine code.

* ARCHITECTURE OF JAVA

JDK = JRE + Development tools
Java development kit

JRE = JVM + Library classes
Java Runtime environment

Java Virtual machine (JVM)

JIT
Just In Time

(JDK)

Package (set of files)

Provides environment to develop and run the Java program

1. Development

PACKAGES IN JAVA —



its the folder where your java file lies.

these files are only accessible in that package.

`System.out.println();`

↓ ↓ ↓

class variable of static print stream

java.lang package inherited by default

standard output stream → print something.

Scanner → class

simple text scanner which can parse
primitive types and
strings using regular expressions

`(System.in)` → (i) → keyboard

sc

constructor

creates an object

out → by default null

we can modify it as

out = file

it will add to the file

Standard Input Structure -

sc



this is a variable which points to
the object of the scanner class

`sc.nextInt();`

PRIMITIVES \rightarrow any data type which you can't break further

int null no = 64;

char letter = 'A';

float moves = 38.67f;

double (long decimal) \rightarrow 123456789.4567

long large Integ : 34654729L

boolean checks = false

by default \rightarrow int (Number)

\rightarrow double (decimals)

\rightarrow to

distinguish b/w we add L for long

int r = 60

or =

and

f for float

Wrapper classes

\rightarrow Integer rno = 64;

numb.

allows more functionality many functions

\rightarrow to primitives

\rightarrow

data types can't be divided further

more

COMMONS

ignored by compiler

Sometimes wrong files are run

► Smart

► main

► click

Ren

DEBUGGER