day-6

char[] c = ['a','p','p','l','e']

way1 → Class → String str = "apple";

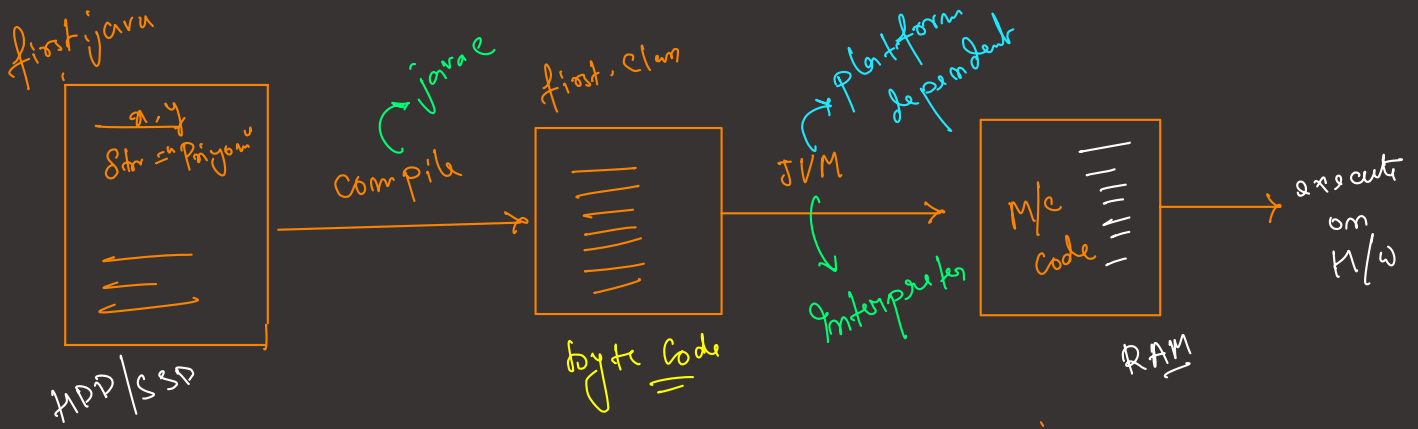
way2 → String str2 = new String("apple");

Integer n = 5 → Class

int n = 5

ways

```
Scanner sc = new Scanner(System.in);
String str3 = sc.NextLine();
```



String Literal

String str1 = "apple"

String str2 = "apple"

ALU

Register A → 10
B → 20
R1 → 30
R2

(0 to 2)

String str3 = new String("apple");

String str4 = new String("apple");

adders checking

str1 == str2 → True.

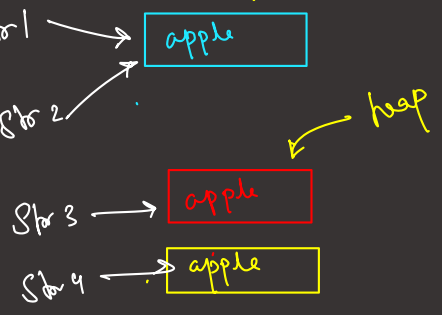
str1 == str3 } False.
str2 == str3 }

we have to compare { str1, str2 } → str1.compareTo(str2)

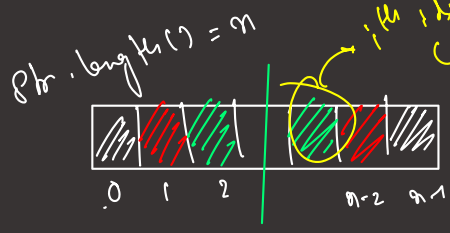
aabc < aabca
aabc < aabd

.compareTo ignoreCase()

-ve → str1 < str2
0 → str1 and str2 same
+ve → str1 > str2



Q1

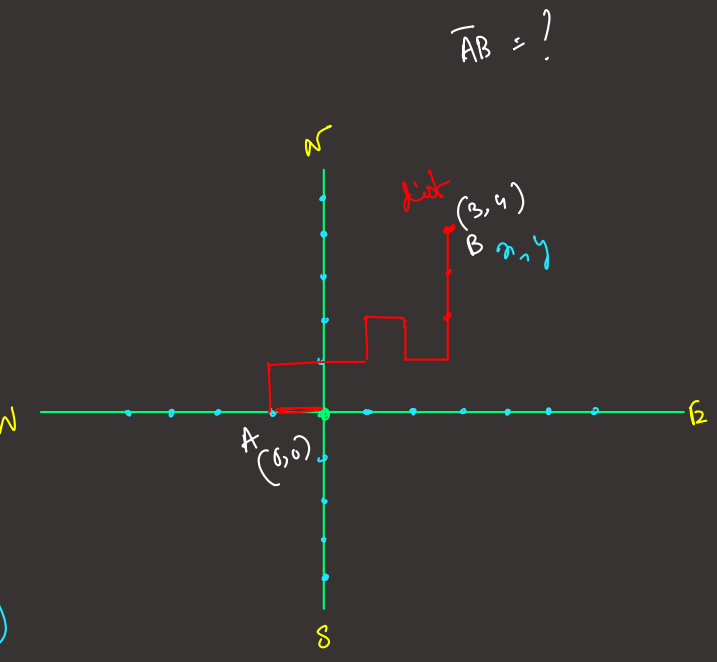


for (i = 0 to n/2) → n/2

Q2 given String a combination of (E, W, N, S)

"WNEENESENNN"

find shortest distance from (0,0) to destination ?



step 2 dist = $\sqrt{x^2 + y^2}$ = Math.sqrt(x*x + y*y)

step 1

```
for (int i = 0 to n) {
    if (charAt(i) == W)
        x = x - 1
    else if (charAt(i) == E)
        x = x + 1
    else if (charAt(i) == N)
        y++;
    else if (charAt(i) == S)
        y--;
}
```

H.W

String Compression

Q1) str = aaabbaaaaccedd

Compressed string: a3b2a4c3d2

Q2) str = abc

Compressed string = a1b1c1 X

= abc

Q3 for given set of strings, print the largest string [in lexicographic order]

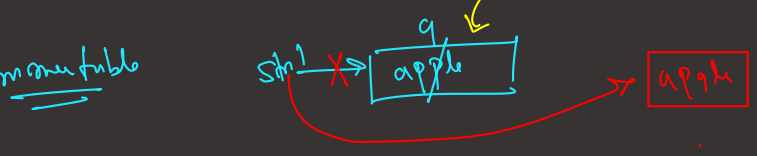
aaabed ↓ String[] arr = [apple, mango, banana]

aaabcc ↑

garbage collector

Ques

Strings are Immutable



str1 = "apple"

apple

X not possible

str1 = "apple"

Ques

String, StringBuilder

StringBuffer

```
str = ""
for(char ch = 'a'; ch <= 'z'; ch++)
    str = str + ch;
print(str)
```

→ copy problem

O(n²)

str = ""

str = "a"

str → "ab"

str → "abc"

str → "abcd"

⋮

str → "abc ... z"

A → 65

Z = 91

⋮

a = 125

```
StringBuilder sb = new StringBuilder("");
sb.append(ch)
```

↳ copy problem X

i.e reduced

O(n)

str: "I am Suvajit Sadhukhan"

↓ str.split(" ")

| I | am | Suvajit | Sadhukhan |

Ques

I want first letter of each word in capital.

str = i_am a student

i_Am —

o/p: I Am A Student

String str = "...."

↓

char array

```
char[] arr = str.toCharArray()
```

arr = | i | | a | m | | s | u | v | a | j | i | t |