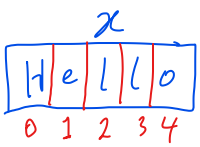
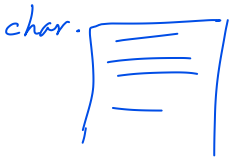
```
string x = "Hello";
```



cw(x) → Hello
cw(x[0]) → H
cw(x[4]) → o
cw(x.Length) → 5



Ahmed123 ✗

2oAhmeD2o ✓

① at least 8 char
② at least 2 digits
③ at least 2 upper

digitCount	upperCount
~~0~~	~~0~~
~~1~~	~~1~~
~~2~~	2
~~3~~	
4	

05XXXXXXX

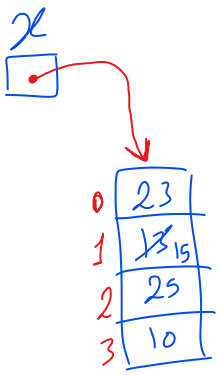
① 10 char → Length
② starts with 05 → startsWith
③ all digits

digitCount
~~0~~
~~1~~
~~2~~
⋮
10

Arrays

```
int[] x = {23, 13, 25, 10};
```

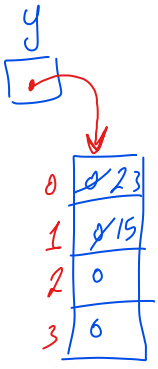
cw(x[0]) → 23
cw(x[3]) → 10
cw(x.Length) → 4
x[1] = 15;



Declaration Creation

```
int[] y = new int[4];
```

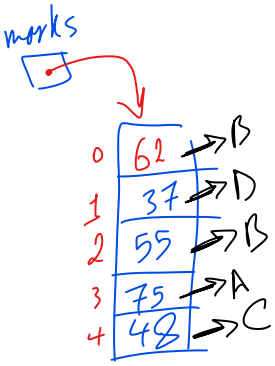
y[0] = 23
y[1] = 15



Enter num of students : 5

Enter std. mark : 62
~ ~ ~ : 37
~ ~ ~ : 55
~ ~ ~ : 75
~ ~ ~ : 48

best = ~ ~



A → m >= best - 10 (best = 65)
B → m >= best - 20 (best = 55)
C → m >= best - 30 (best = 45)
D → m >= best - 40 (best = 35)
F → else

Enter num of employees: 4

Enter emp salary: 7000

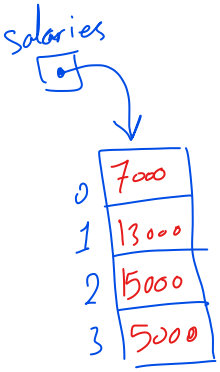
~ ~ ~ : 13000

~ ~ ~ : 15000

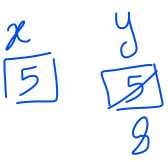
~ ~ ~ : 5000

avg = ... 10000

Count 0 1 2

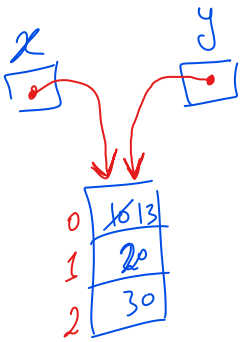



```
int x = 5;
int y = x;
y += 3;
```

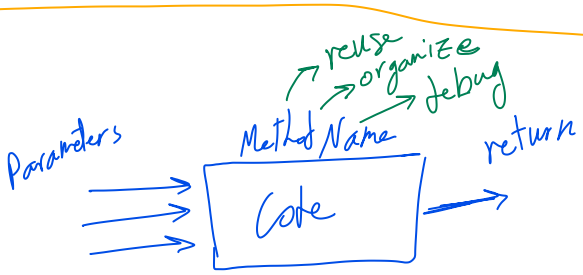


copy Value

```
int[] x = {10, 20, 30};
int[] y = x;
y[0] += 3;
```



copy Reference



Call Method

Math.Max(5,2) → 5

Math.Pow(5,2) → 25

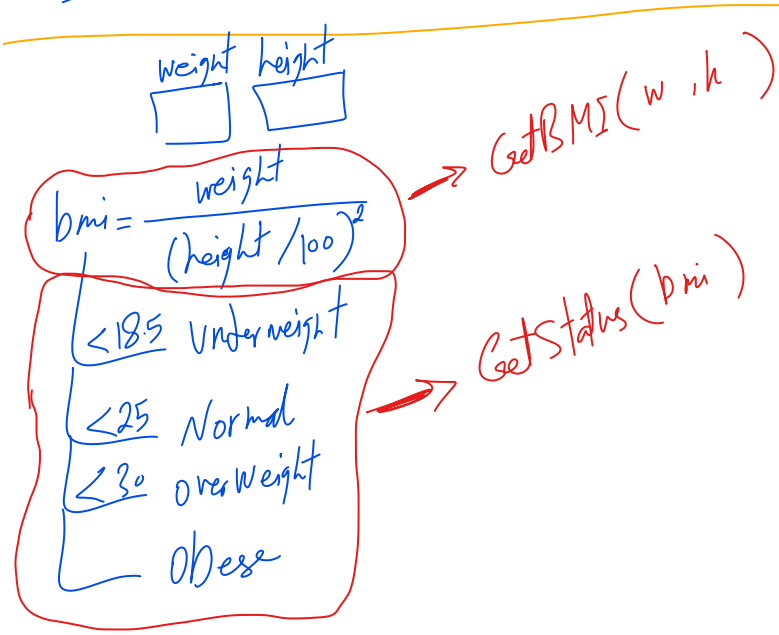
x.ToUpper()

Define Method

modifiers return-type MethodName(Parameters) {

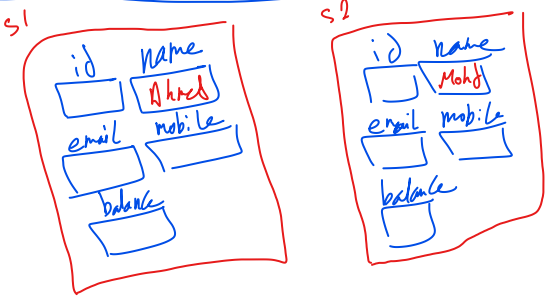
~~code~~

}



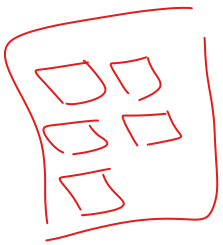
$$pct = \frac{mark}{fullMark} * 100$$

- >85 Excellent
- >75 V. Good
- >65 Good
- >=50 Pass
- Fail



OOP

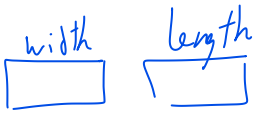
- object → special variable / place in memory
- class → code
  - Declare the object (constructor)
  - Declare the operations of object (Methods)



Student

Course

Trainer



area = width * length

OOP

Room

width
length

Room(-,-)
GetArea()

$$bmi = \frac{weight}{(height/100)^2}$$

- < 18.5 Underweight
- <25 Normal
- <30 Overweight
- obese

OOP

Patient

name
weight
height

Patient(-,-,-)
GetBMI()
GetStatus()

annualSalary = salary * 12

servicePeriod = 2022 - hireYear

OOP

Employee

name
salary
hireYear

Employee(--)
GetAnnualSalary()
GetServicePeriod()