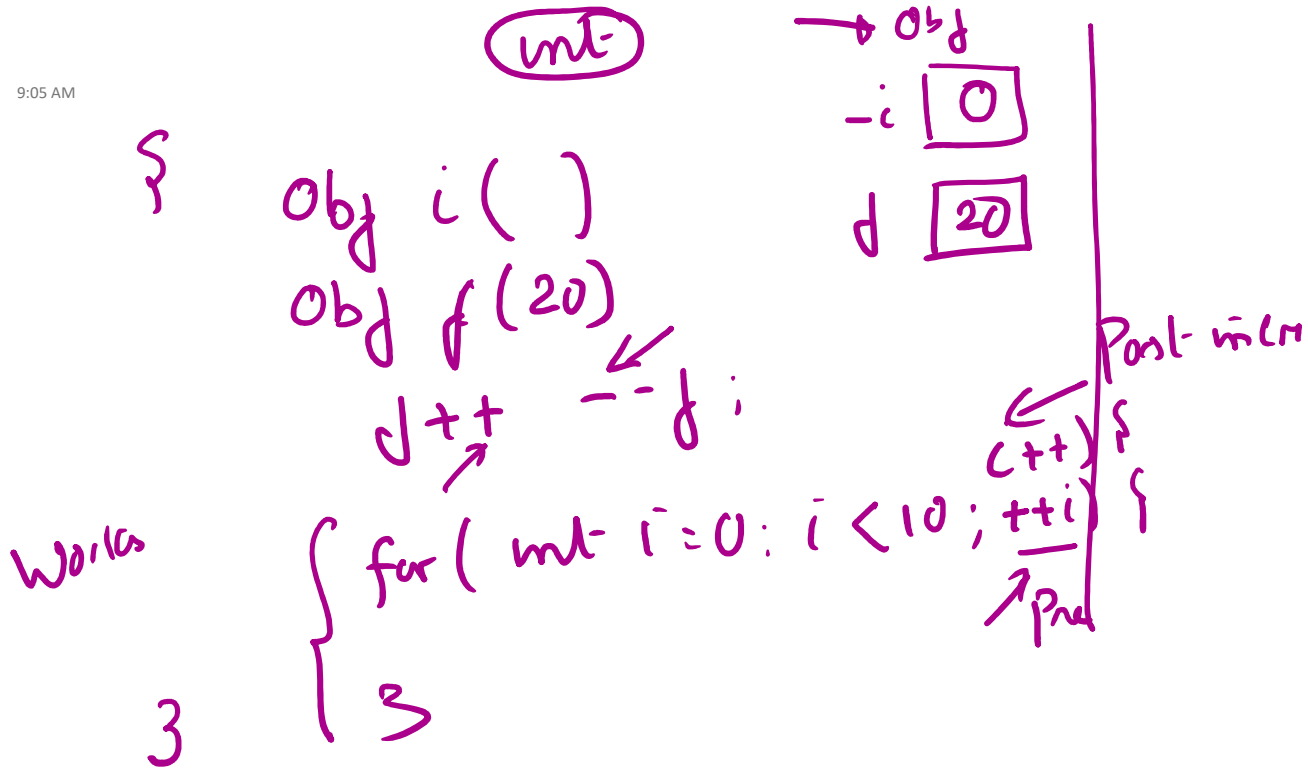
C++ 11

Friday, March 24, 2023 8:33 PM

C++

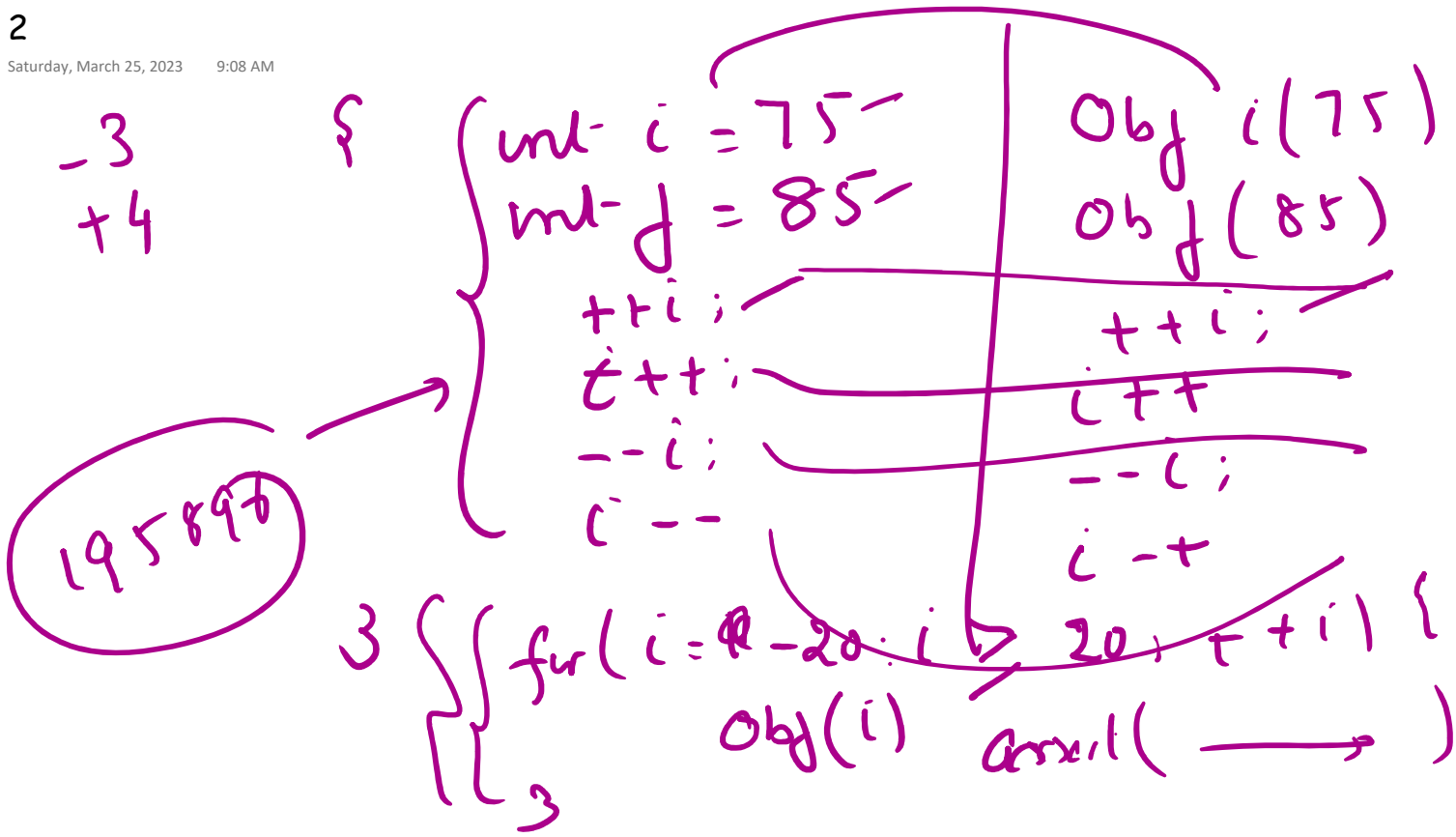
11. March 25
12. April 1
13. April 8
14. April 15
15. April 22 FINAL EXAM

Saturday, March 25, 2023 9:05 AM



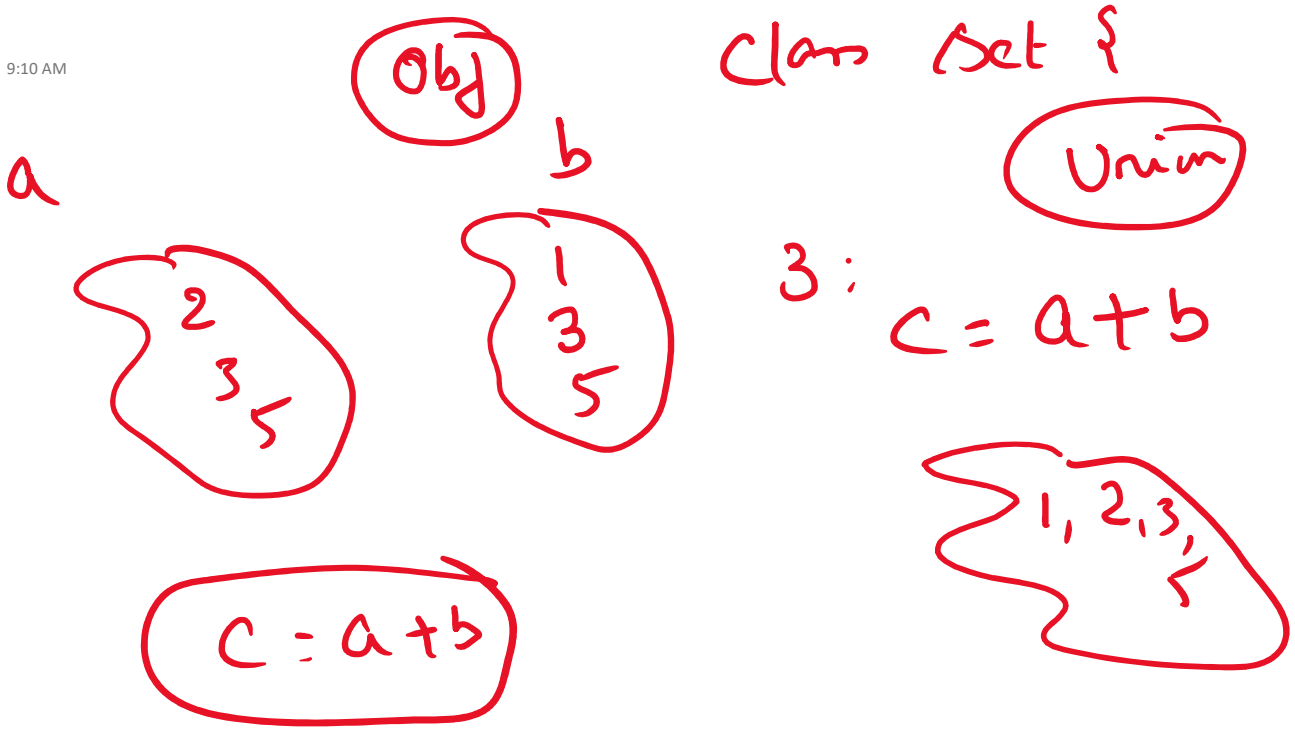
2

Saturday, March 25, 2023 9:08 AM



3

Saturday, March 25, 2023 9:10 AM



Saturday, March 25, 2023 9:13 AM

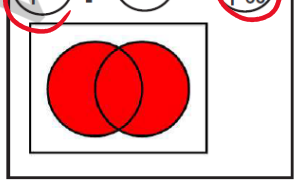
and the elements will be between 0 to 63

1 Adding an element to set
a = {1,2}
a +=5 = {1,2,5}
a +={10,63} = {0,1,2,5,63}

2 Removing an element
a = {1,6,10}
a -=6 = {1,10}

What to submit?
1.iset64test.cpp cannot be modified. All tests must pass
2.Submit as a hardcopy
1. iset64.h
2. iset64.cpp
3. Output as a pdf file
4. A word doc that explains
1. Data structure used
2. Algorithms used for all the 6 methods above

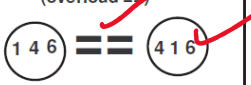
3 Union of sets (overload with +)



4 Intersection of sets (overload with *)

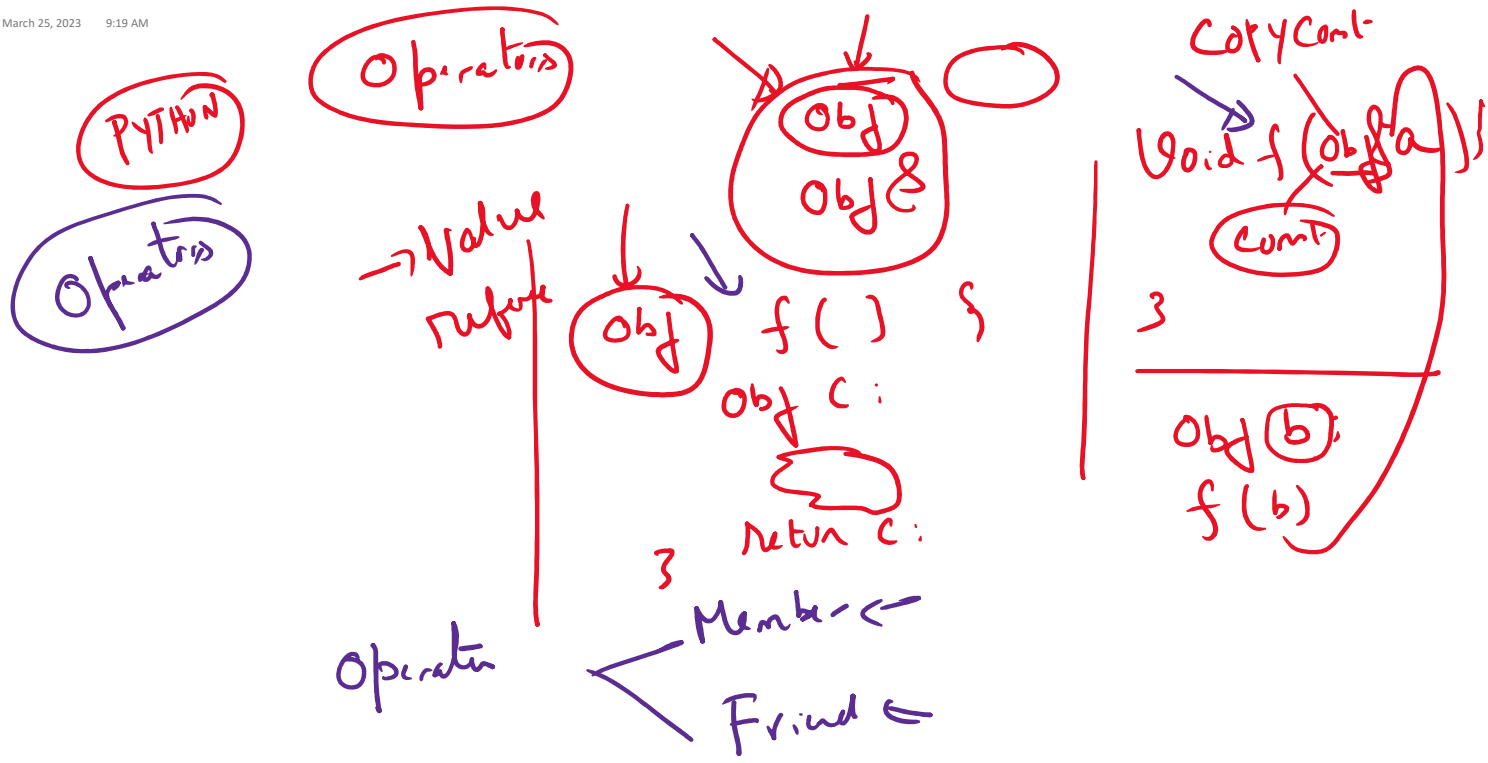
5 Difference of sets (overload with -)

6 Is set equal? (overload ==)



SUDEVAN

Saturday, March 25, 2023 9:19 AM



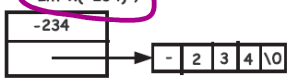
6
Saturday, March 25, 2023 5:34 AM

int Int int x = -234

x[2]

```
class Int {
    private:
        int _d ;
        char* _s;
        static bool _display ;
};
```

Int x(-234) ;



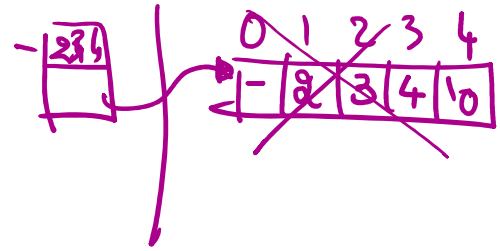
3

-234

4

x++

x[2] = 3



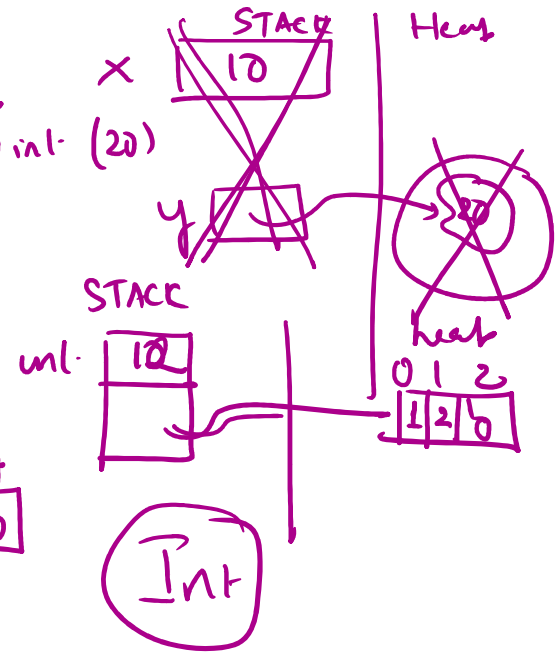
{ int x = 10 ;

int * y = new int (20)

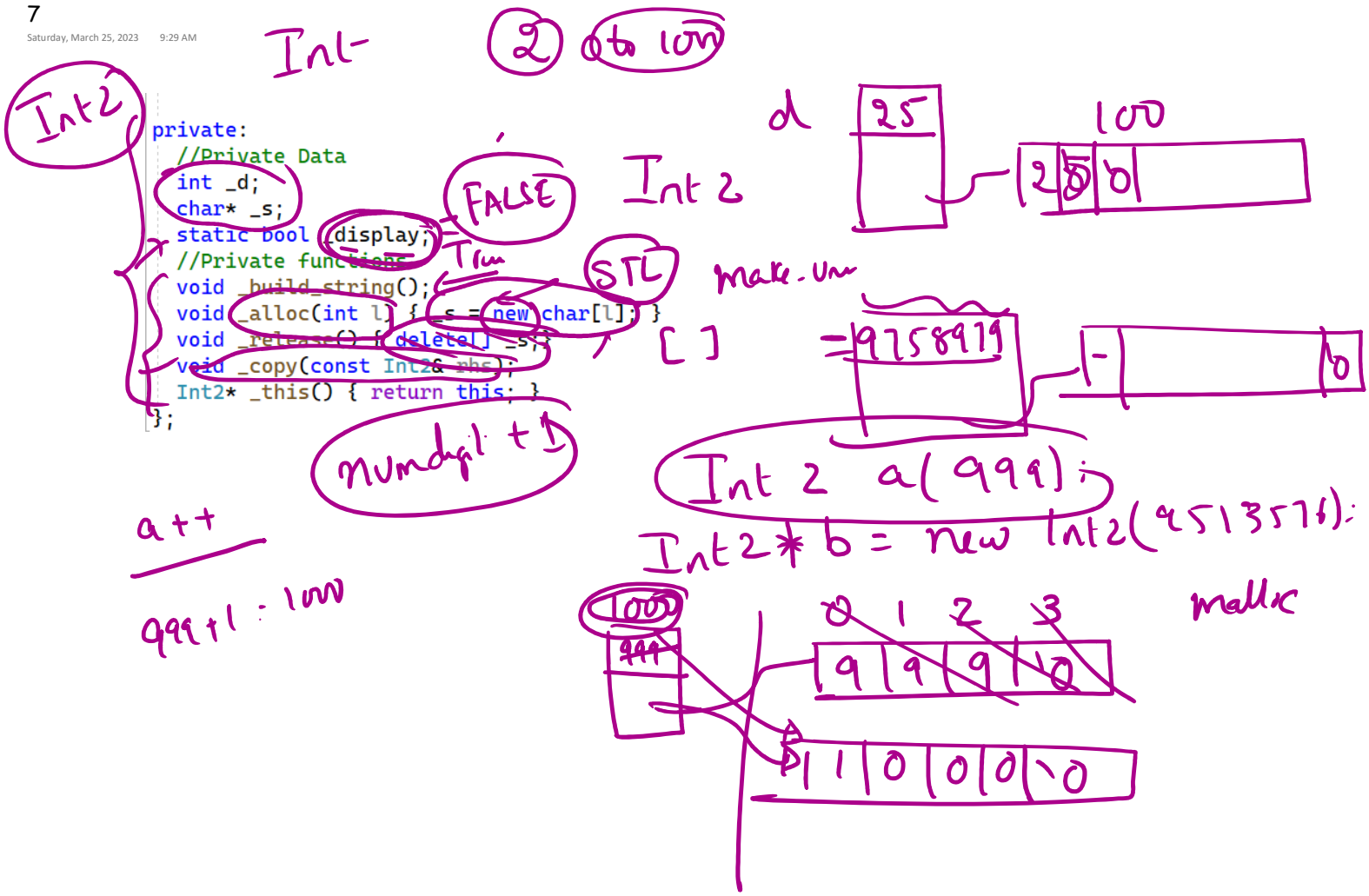
delete y ;

}

Int x = 10

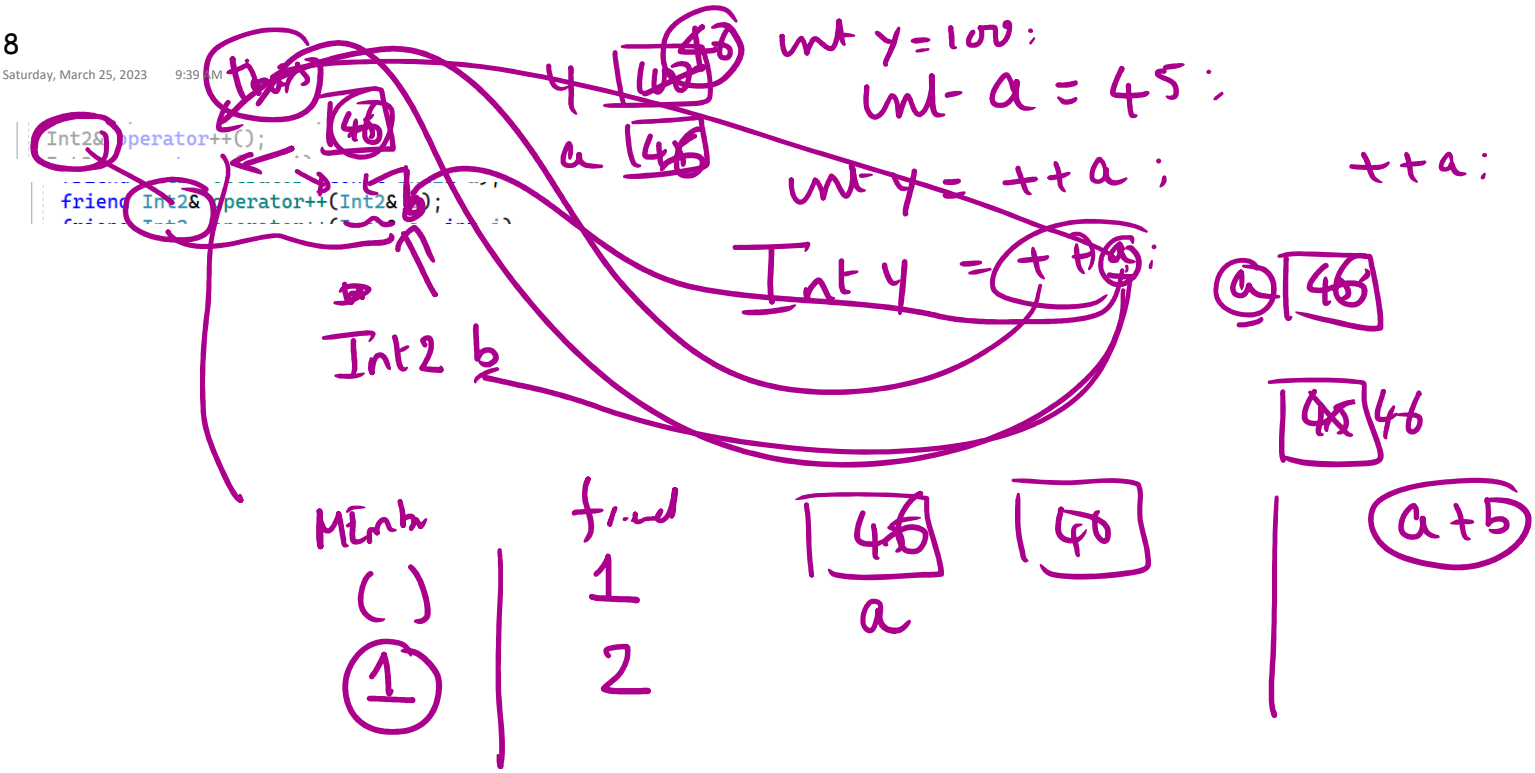


Saturday, March 25, 2023 9:29 AM



Saturday, March 25, 2023 9:39 AM

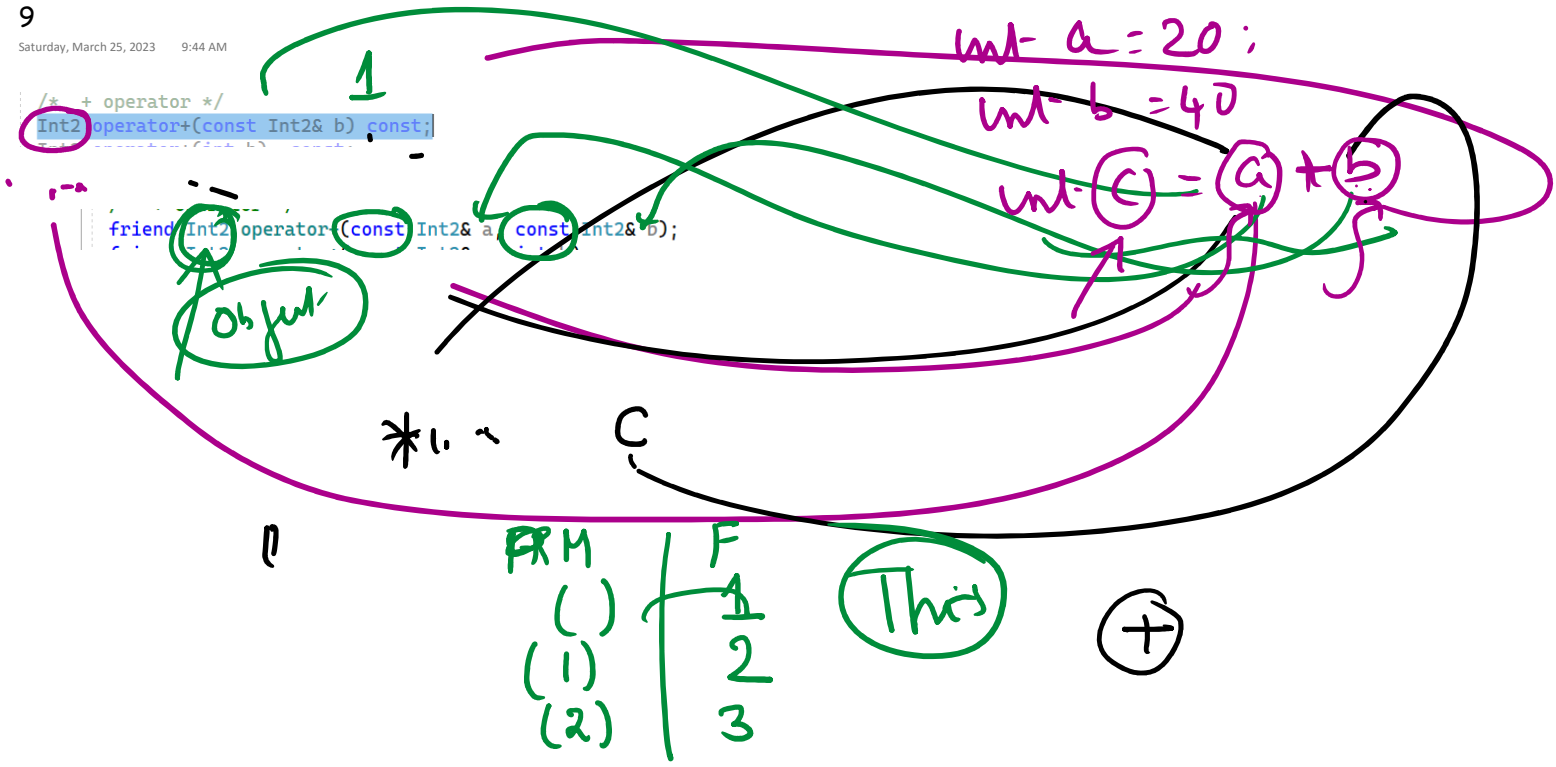
```
Int2& operator++();
friend Int2& operator++(Int2& b);
```



Saturday, March 25, 2023 9:44 AM

```
/*  + operator */
Int2 operator+(const Int2& b) const;

friend Int2 operator+(const Int2& a, const Int2& b);
```



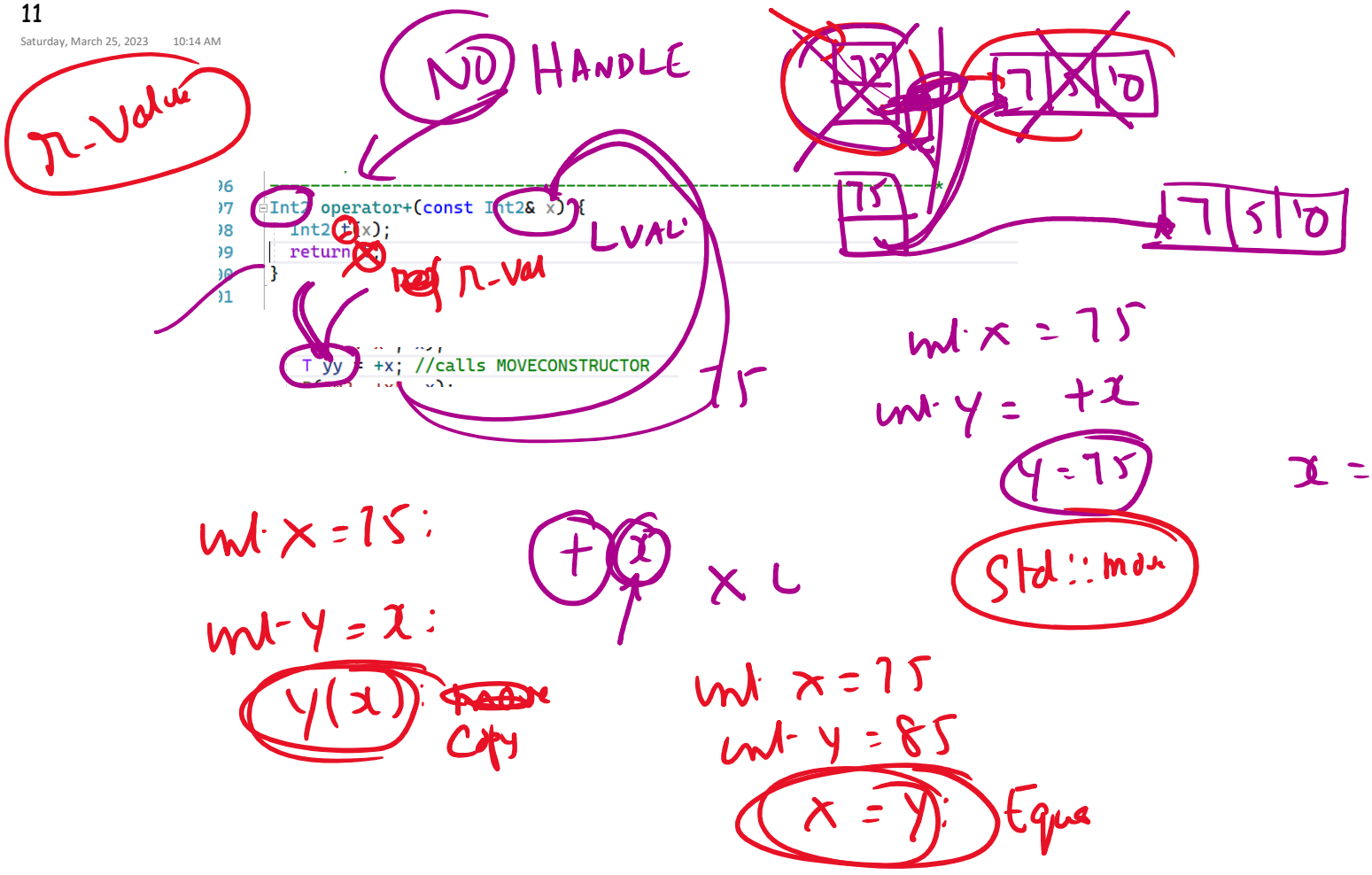
PRM	F
( )	1
(1)	2
(2)	3

Saturday, March 25, 2023 9:51 AM

```
class Int2 {
public:
  Int2(int x = 0);
  Int2();
  Int2(const Int2& x);
  Int2& operator=(const Int2& x);
#ifdef MOVECONSTRUCTOR
  Int2(Int2&& b); // Move constructor
#endif
#ifdef MOVEEQUALOPERATOR
  Int2& operator=(Int2&& b);
#endif
  int num_digit() const { return int(strlen(_s)); }
  const char& operator[] (int index) const;
  friend ostream& operator<<(ostream& o, const Int2& x);
  static void set_verbose(bool x) { _display = x; }
```

```
  /* unary operators as member fu
  Int2 operator+() const;
  Int2 operator-() const;
  Int2& operator++();
  Int2 operator++(int i);
  Int2& operator--();
  Int2 operator--(int i);
  Int2 operator~() const;
  bool operator!() const;
  Int2* operator&();
```

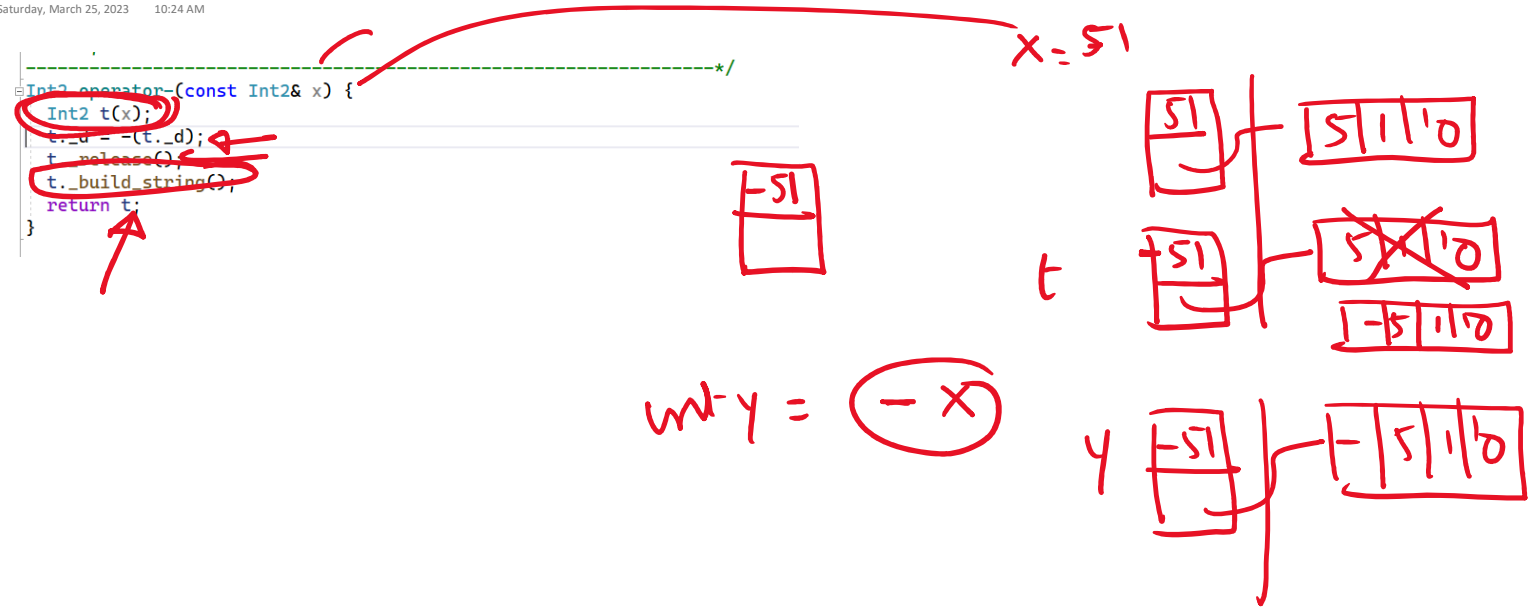
Saturday, March 25, 2023 10:14 AM



12

Saturday, March 25, 2023 10:24 AM

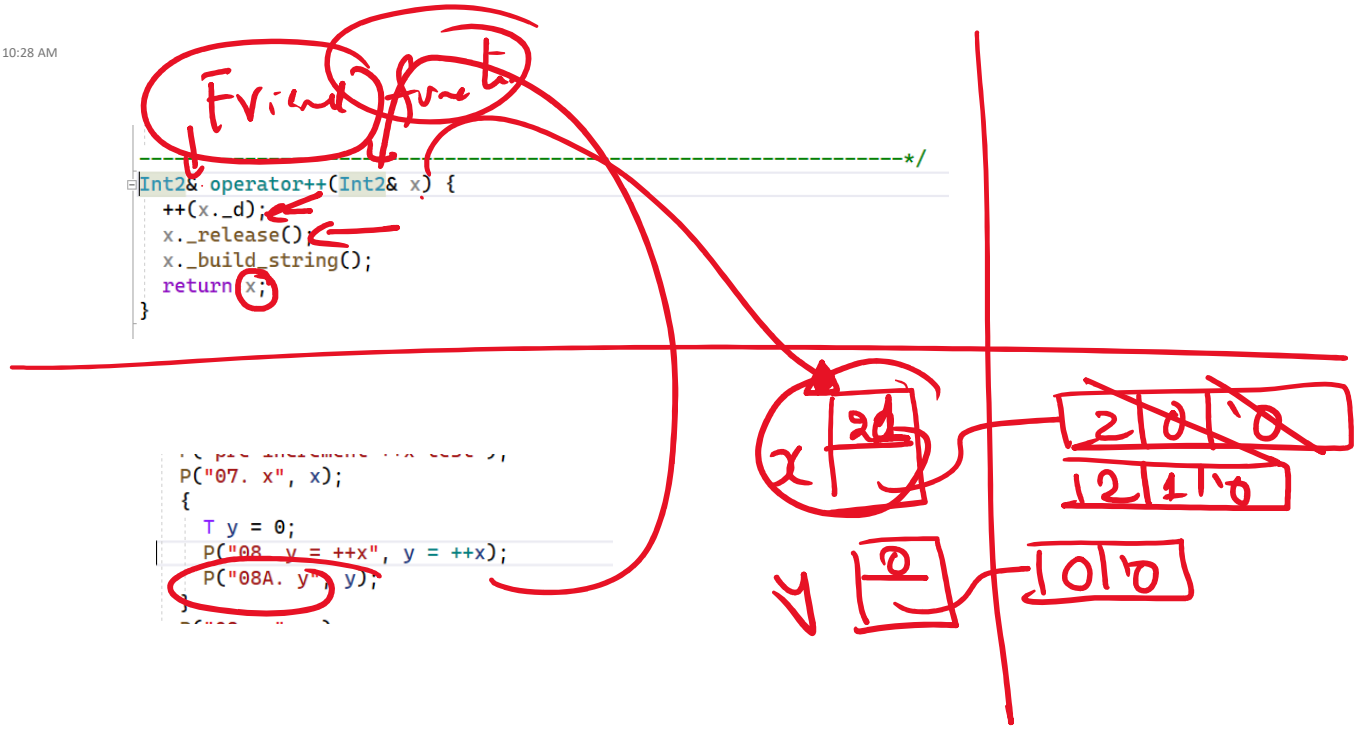
```
-------------------------------------------------------------------*/
Int2 operator-(const Int2& x) {
  Int2 t(x);
  t._d = -(t._d);
  t._release();
  t._build_string();
  return t;
}
```



13

Saturday, March 25, 2023 10:28 AM

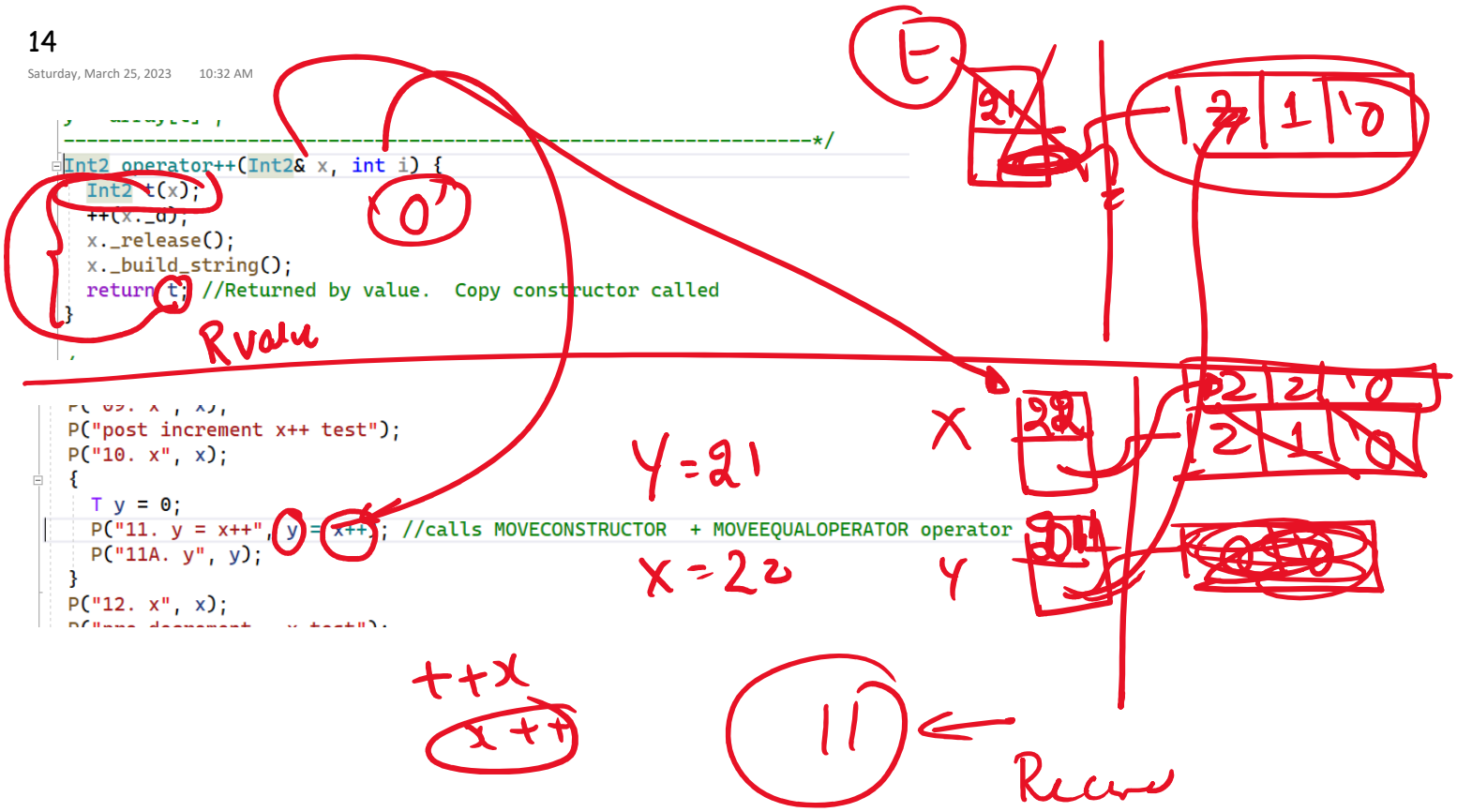
13



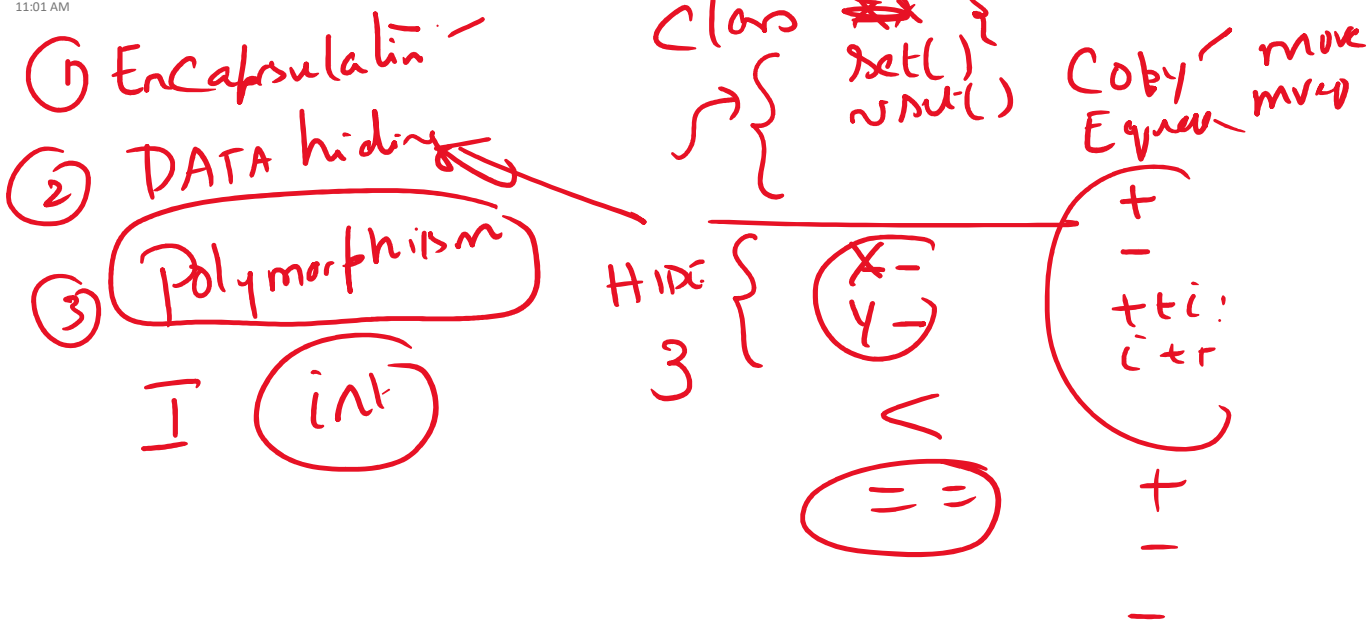
Saturday, March 25, 2023 10:32 AM

```
-------------------------------------------------------------------*/
Int2 operator++(Int2& x, int i) {
  Int2 t(x);
  ++(x._d);
  x._release();
  x._build_string();
  return t; //Returned by value.  Copy constructor called
}
```

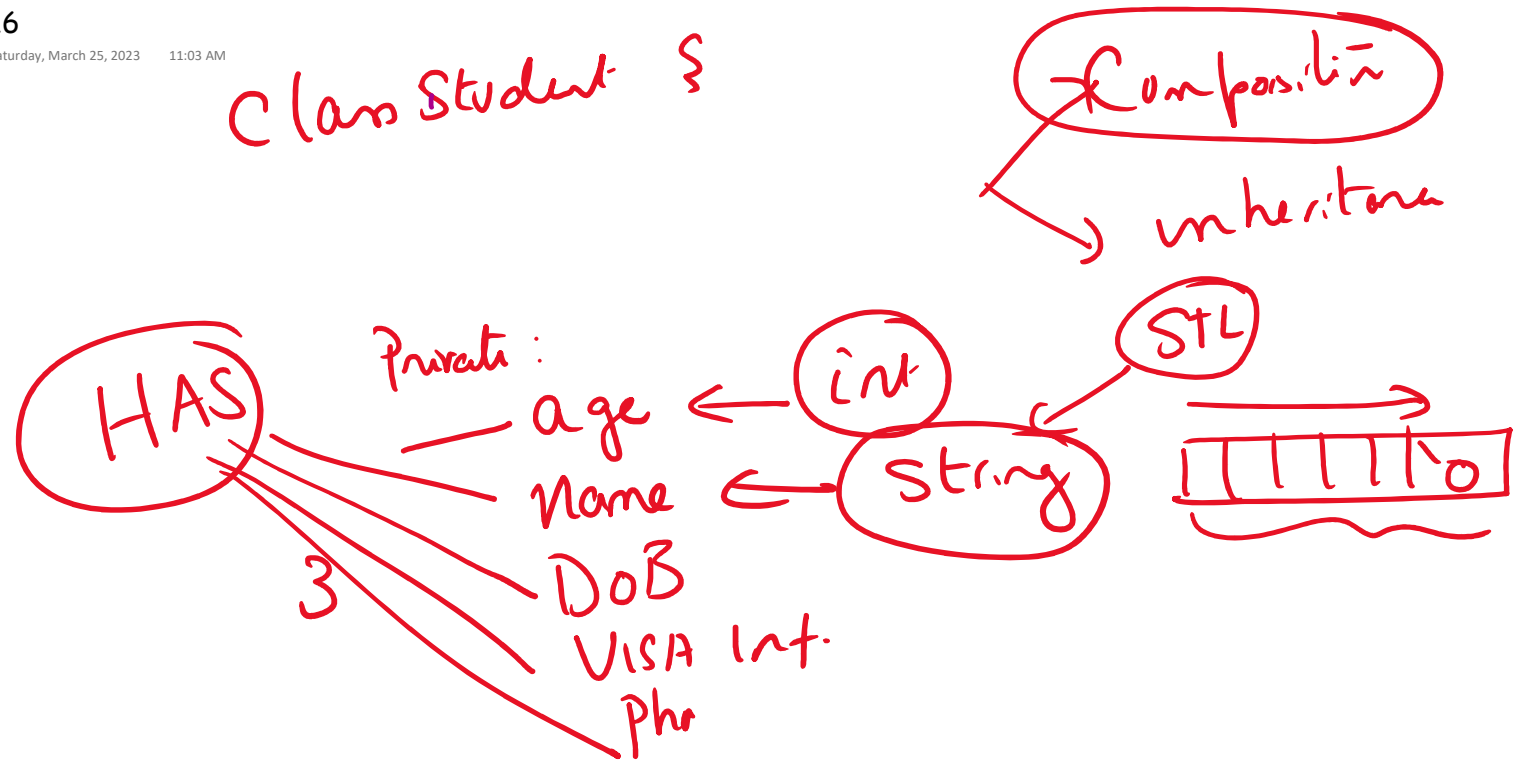
```
P("post increment x++ test");
P("10. x", x);
{
  T y = 0;
  P("11. y = x++", y = x++); //calls MOVECONSTRUCTOR  + MOVEEQUALOPERATOR operator
  P("11A. y", y);
}
P("12. x", x);
```



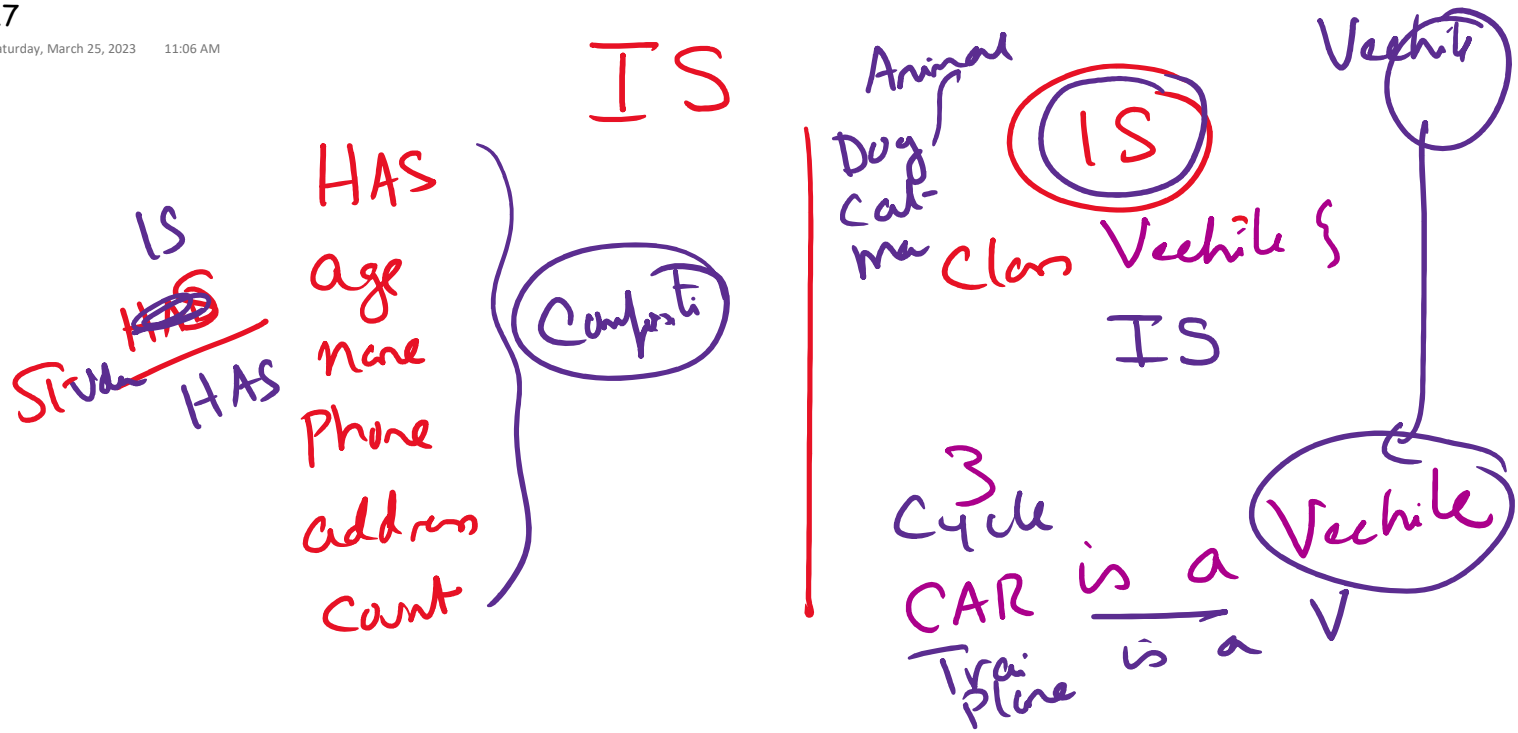
Saturday, March 25, 2023 11:01 AM



Saturday, March 25, 2023 11:03 AM



Saturday, March 25, 2023 11:06 AM



18

Saturday, March 25, 2023 11:09 AM

https://www.agame.com/game/deal-or-no-deal-iwin

19

Saturday, March 25, 2023 11:12 AM

1000 1 milli N = 40

Deal or No deal

T 1000

HAS → 26 Suitcase

→ 7, 6

Strategy

1 → 1 milli

HAS — BANKER

HAS — PLAYE

1 milli 3000

25

Unv 6

20

Saturday, March 25, 2023 11:23 AM

class dealernodeals

27

50

OOP

1$

5$

Shuffle

Suitcase

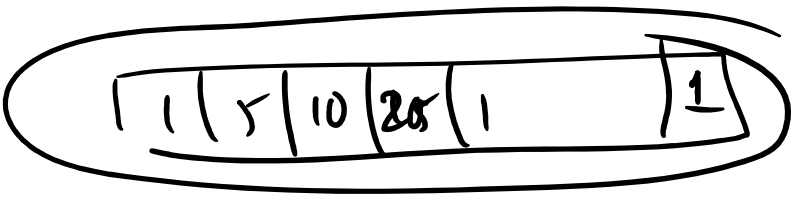
1 27

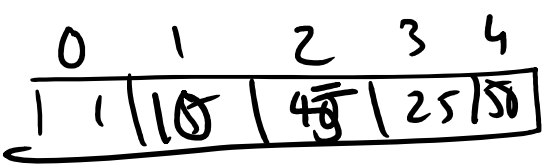
1

3

1	5	10	25	1	1

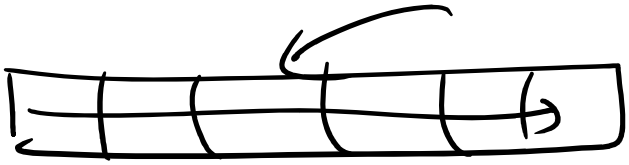
100





0	1	2	3	4
1	10	45	25	50

n = 5



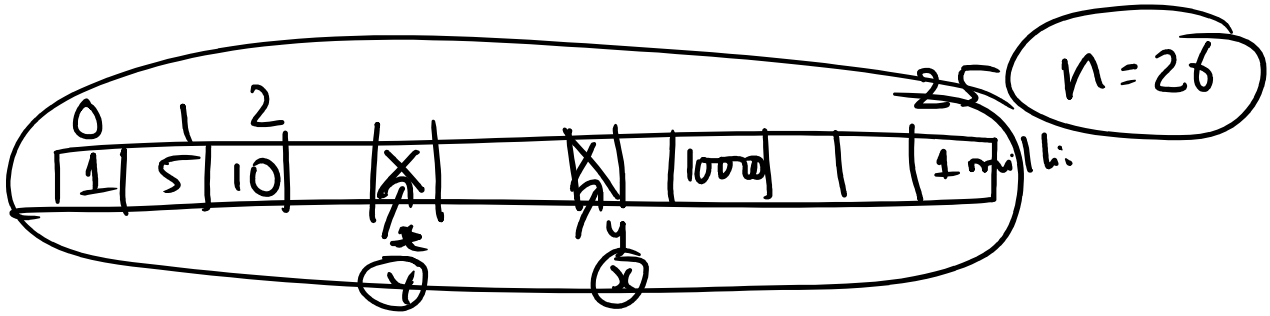
0 .. 4

2

1

21

Saturday, March 25, 2023 11:26 AM



0 to 25

1000 lim

5

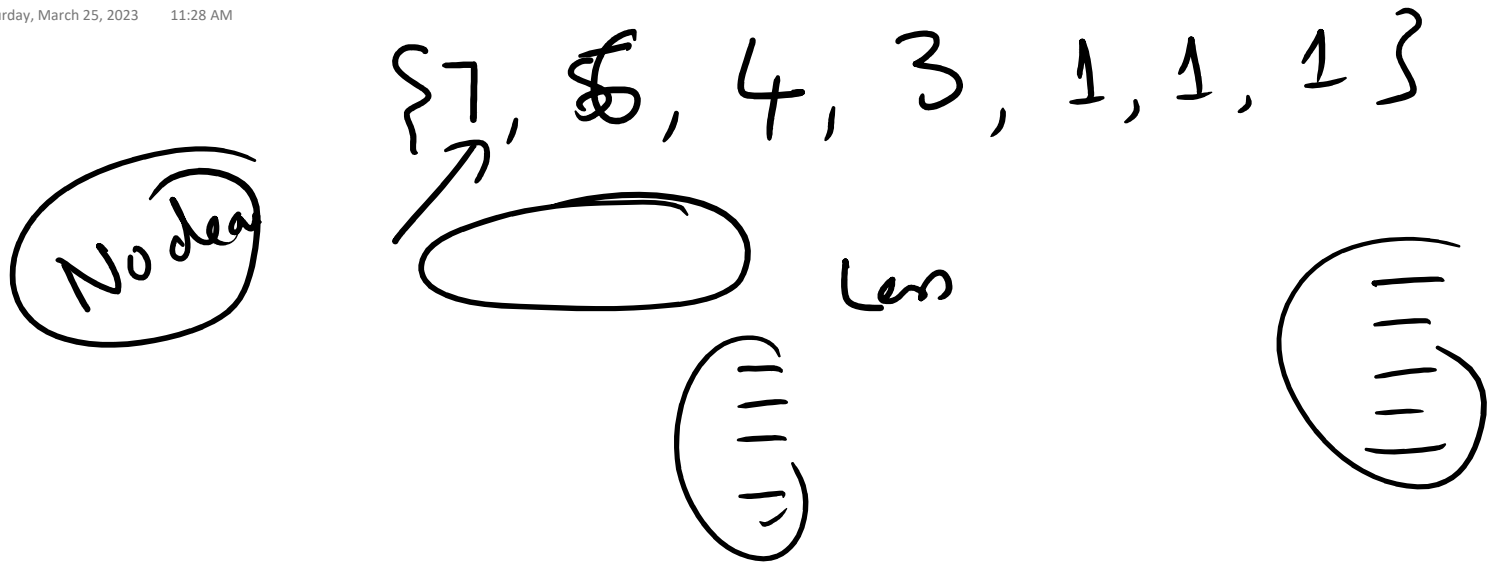
8

25	50	75

75 25 50

22

Saturday, March 25, 2023 11:28 AM



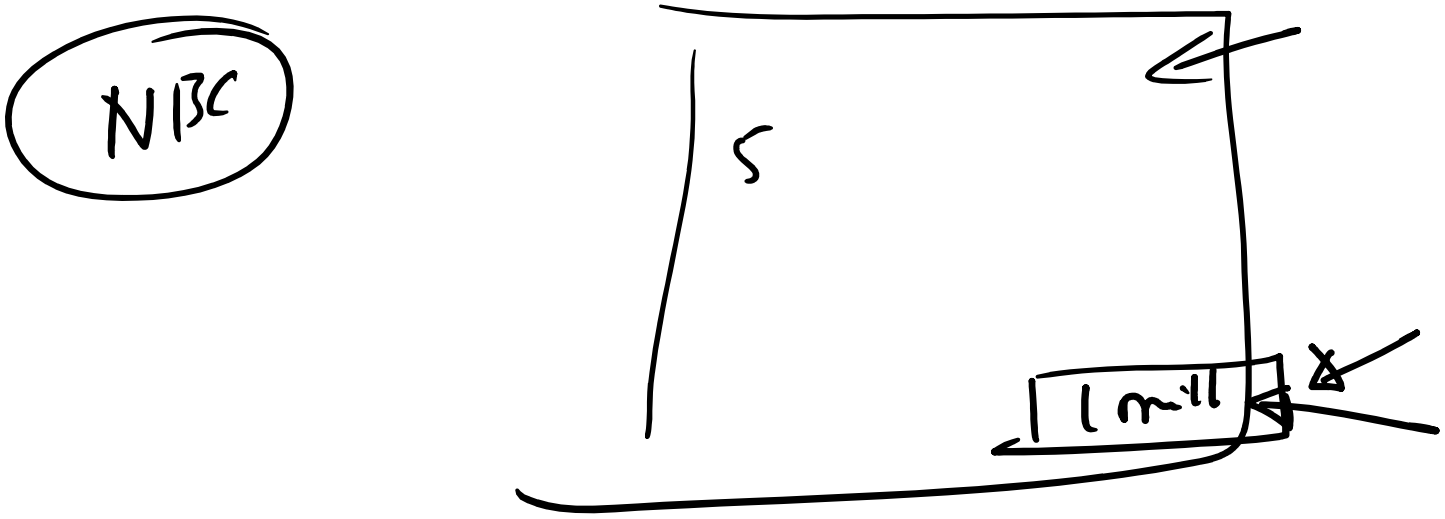
20

Saturday, March 25, 2023 11:34 AM

```
Interactive{i} or Computer[c] :i
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26
Select ONE suitcase from  above: 37
Select ONE suitcase from  above: tyy
Select ONE suitcase from  above: 20
Your suitcase is: 20
----------ROUND NUMBER 1 ------------
***Select 6 suitcases now****
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,21,22,23,24,25,26
Select ONE suitcase from  above: 11
You selected suitcase 11 which has 10000 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,21,22,23,24,25,26
Select ONE suitcase from  above: 2io
Select ONE suitcase from  above: 25
You selected suitcase 25 which has 200 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,21,22,23,24,26
Select ONE suitcase from  above: 18
You selected suitcase 18 which has 5 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,19,21,22,23,24,26
Select ONE suitcase from  above: 14
You selected suitcase 14 which has 1 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,12,13,15,16,17,19,21,22,23,24,26
Select ONE suitcase from  above: 10
You selected suitcase 10 which has 1000 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,12,13,15,16,17,19,21,22,23,24,26
Select ONE suitcase from  above: 16
You selected suitcase 16 which has 10 dollars
Money left are: 1,100,500000,75000,100000,300,300000,75,50,750,25,400,200000,75000,0.01,400000,500,25000,50000
Banker offer: 179063
Deal[d] or NOdeal[n] :
```

21

Saturday, March 25, 2023 11:45 AM



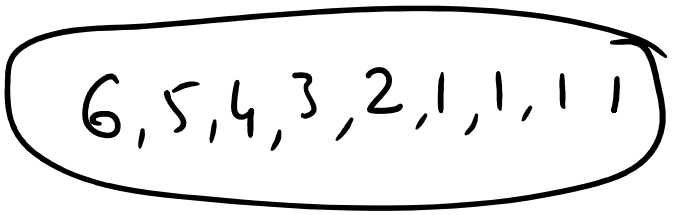
22

Saturday, March 25, 2023 11:48 AM

```
Interactive{i} or Computer[c] :i
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26
Select ONE suitcase from  above: 37
Select ONE suitcase from  above: tyy
Select ONE suitcase from  above: 20
Your suitcase is: 20
----------ROUND NUMBER 1 ------------
***Select 6 suitcases now****
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,21,22,23,24,25,26
Select ONE suitcase from  above: 11
You selected suitcase 11 which has 10000 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,21,22,23,24,25,26
Select ONE suitcase from  above: 2io
Select ONE suitcase from  above: 25
You selected suitcase 25 which has 200 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,21,22,23,24,26
Select ONE suitcase from  above: 18
You selected suitcase 18 which has 5 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,19,21,22,23,24,26
Select ONE suitcase from  above: 14
You selected suitcase 14 which has 1 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,12,13,15,16,17,19,21,22,23,24,26
Select ONE suitcase from  above: 10
You selected suitcase 10 which has 1000 dollars
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,12,13,15,16,17,19,21,22,23,24,26
Select ONE suitcase from  above: 16
You selected suitcase 16 which has 10 dollars
Money left are: 1e+06,100,500000,75000,100000,300,300000,75,50,750,25,400,200000,750000,0.01,400000,500,25000,50000
Banker offer: 179063
Deal[d] or NOdeal[n] :
```

23 (automatic)

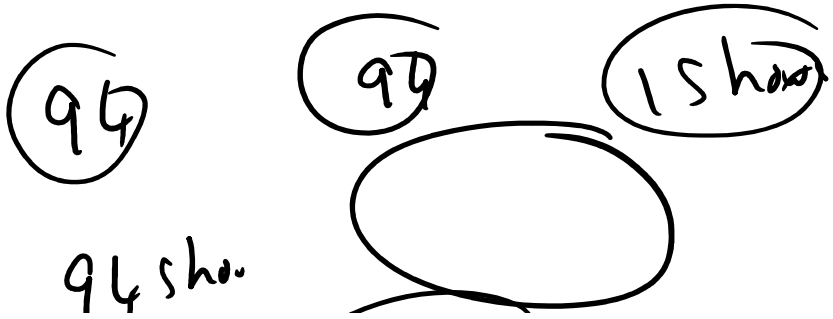
Saturday, March 25, 2023 11:49 AM



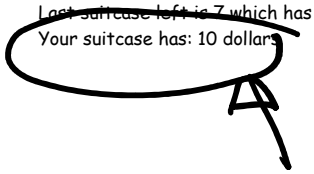
Interactive{i] or Computer[c] :c
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26
Your suitcase is: 13
----------ROUND NUMBER 1 ----------
Select 6 suitcases now*
Select ONE suitcase from 1,2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25,26
You selected suitcase 1 which has 500 dollars
Select ONE suitcase from 2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25,26
You selected suitcase 18 which has 75 dollars
Select ONE suitcase from 2,3,4,5,6,7,8,9,10,11,12,14,15,16,17,19,20,21,22,23,24,25,26
You selected suitcase 11 which has 500000 dollars
Select ONE suitcase from 2,3,4,5,6,7,8,9,10,12,14,15,16,17,19,20,21,22,23,24,25,26
You selected suitcase 15 which has 100 dollars
Select ONE suitcase from 2,3,4,5,6,7,8,9,10,12,14,16,17,19,20,21,22,23,24,25,26
You selected suitcase 2 which has 0.01 dollars
Select ONE suitcase from 3,4,5,6,7,8,9,10,12,14,16,17,19,20,21,22,23,24,25,26
You selected suitcase 6 which has 300 dollars
Money left are:

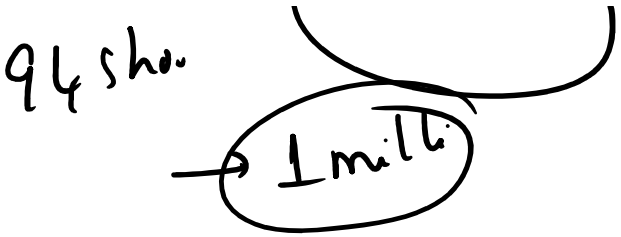
5000,400,1,100000,400000,25000,25,750000,750,200000,300000,1e+06,50000,200,75000,50,1000,10000,5 SORT

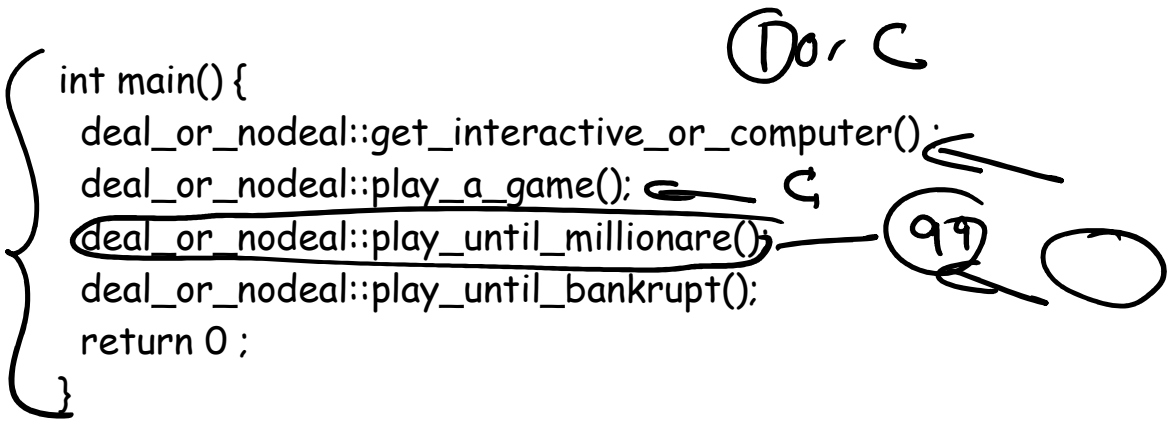
Banker offer: 153549
----------ROUND NUMBER 2 ----------
Select 5 suitcases now*
Select ONE suitcase from 3,4,5,7,8,9,10,12,14,16,17,19,20,21,22,23,24,25,26
You selected suitcase 10 which has 25 dollars
Select ONE suitcase from 3,4,5,7,8,9,12,14,16,17,19,20,21,22,23,24,25,26
You selected suitcase 14 which has 750 dollars
Select ONE suitcase from 3,4,5,7,8,9,12,16,17,19,20,21,22,23,24,25,26
You selected suitcase 26 which has 5 dollars
Select ONE suitcase from 3,4,5,7,8,9,12,16,17,19,20,21,22,23,24,25
You selected suitcase 9 which has 25000 dollars
Select ONE suitcase from 3,4,5,7,8,12,16,17,19,20,21,22,23,24,25
You selected suitcase 3 which has 5000 dollars
Money left are: 400,1,100000,400000,750000,200000,300000,1e+06,50000,200,75000,50,1000,10000
Banker offer: 206189
----------ROUND NUMBER 3 ----------
Select 4 suitcases now*
Select ONE suitcase from 4,5,7,8,12,16,17,19,20,21,22,23,24,25
You selected suitcase 24 which has 1000 dollars
Select ONE suitcase from 4,5,7,8,12,16,17,19,20,21,22,23,25
You selected suitcase 20 which has 50000 dollars
Select ONE suitcase from 4,5,7,8,12,16,17,19,21,22,23,25
You selected suitcase 25 which has 10000 dollars
Select ONE suitcase from 4,5,7,8,12,16,17,19,21,22,23
You selected suitcase 17 which has 300000 dollars
Money left are: 400,1,100000,400000,750000,200000,1e+06,200,75000,50
Banker offer: 252565
----------ROUND NUMBER 4 ----------
Select 3 suitcases now*
Select ONE suitcase from 4,5,7,8,12,16,19,21,22,23
You selected suitcase 21 which has 200 dollars
Select ONE suitcase from 4,5,7,8,12,16,19,22,23
You selected suitcase 12 which has 750000 dollars
Select ONE suitcase from 4,5,7,8,16,19,22,23
You selected suitcase 16 which has 200000 dollars
Money left are: 400,1,100000,400000,1e+06,75000,50
Banker offer: 225064
----------ROUND NUMBER 5 ----------
Select 2 suitcases now*
Select ONE suitcase from 4,5,7,8,19,22,23
You selected suitcase 23 which has 50 dollars
Select ONE suitcase from 4,5,7,8,19,22
You selected suitcase 4 which has 400 dollars
Money left are: 1,100000,400000,1e+06,75000
Banker offer: 315000
----------ROUND NUMBER 6 ----------
Select exactly one suite now
Select ONE suitcase from 5,7,8,19,22
You selected suitcase 19 which has 1e+06 dollars



----------ROUND NUMBER 6 ----------
Select exactly one suite now
Select ONE suitcase from 5,7,8,19,22
You selected suitcase 19 which has 1e+06 dollars
Money left are: 1,100000,400000,75000
Banker offer: 143750
----------ROUND NUMBER 7 ----------
Select exactly one suite now
Select ONE suitcase from 5,7,8,22
You selected suitcase 8 which has 400000 dollars
Money left are: 1,100000,75000
Banker offer: 58333
----------ROUND NUMBER 8 ----------
Select exactly one suite now
Select ONE suitcase from 5,7,22
You selected suitcase 5 which has 1 dollars
Money left are: 100000,75000
Banker offer: 87500
----------ROUND NUMBER 9 ----------
Select exactly one suite now
Select ONE suitcase from 7,22
You selected suitcase 22 which has 75000 dollars
Money left are: 100000
Banker offer: 100000
----------ROUND NUMBER 10 ----------
Select ONE suitcase from 7
Last suitcase left is 7 which has 100000 dollars
Your suitcase has: 10 dollars





Saturday, March 25, 2023 11:58 AM

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