

# Assignment

Date.....9/10/23

5

float  $g = 10.3$ ;  
float  $p = 20.5$

float ~~to~~ pts = 2f%

$$(*pt8) + +^0 \rightarrow 11.5$$
$$* p + \sigma = p_j \rightarrow 2.5 = f$$

Count  $\ll \# \text{pts} \ll \epsilon^{\frac{1}{2}}$   $\Rightarrow \ll f \ll \epsilon^{\frac{1}{2}}$   $\Rightarrow \ll p_j$

205

205

2.5

② →

ist  $a = 4$

int  $b = 17$

Int  $C = 26$

\*  $C = 7$

as 7

$$6 \rightarrow 7$$

$10^4$   $\boxed{7}$   $20^4$   $\boxed{7}$   $7^{\text{th}}$   
 $a$   $b$   
 $111$   $\boxed{204}$   $c$

B →

$$\text{int } \& \text{ ptr} = 0;$$

③  $\ln a = 10$

$$p \vdash a$$

\*  $p \vdash \phi \rightarrow$

Box  $\rightarrow$  null

10  
a

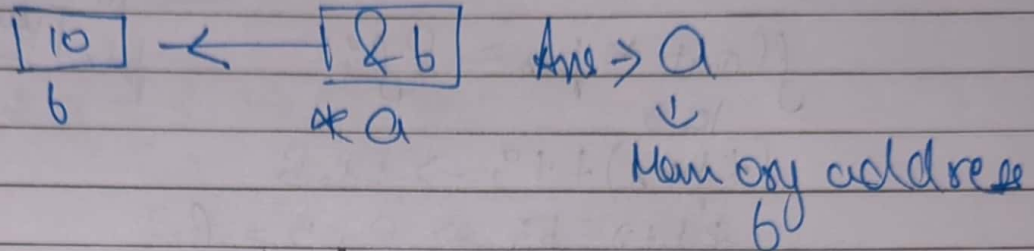
## Runtime error

$\text{ptr} = a$

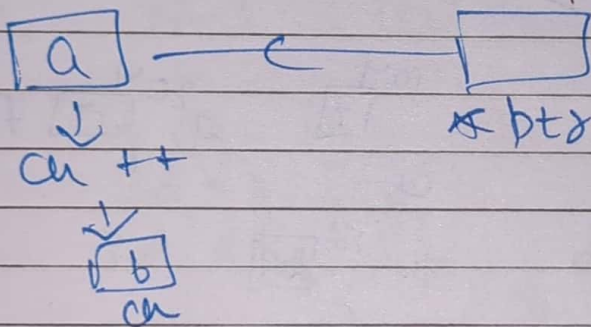
Defining Wall Pointers

Date 9/10/23

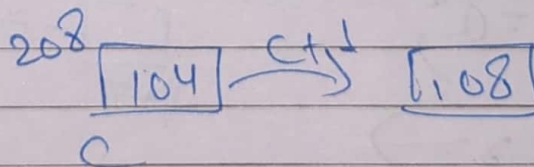
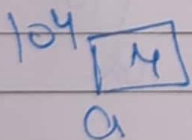
④ → which following give memory address of variable `b`? pointed by pointer `a` i.e.  
`int b = 10;`  
`int *a = &b;`



⑤ → `char ch = 'a';`  
`char *ptr = &ch;`  
`ch++;`  
`cout << *ptr << endl;` → b

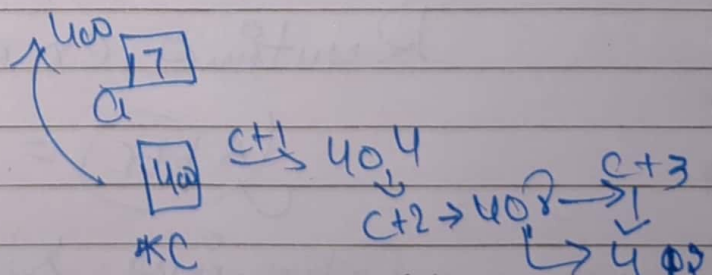


⑥ → `int a = 7;`  
`int *c = &a;`  
`c = c + 1;`  
`a > 7 <<`      `*c → null`



→ Random Garbage value

⑦ → `&a = 400`  
`int a = 7`  
`int *c = &a`  
`c = c + 3`  
`c → 412`



APCO

Teacher's Sign.....



Date... 9/10/23.

⑧ →  $\Delta a \rightarrow 200$   
 double  $\rightarrow$  8 byte  
 double  $a = 10.54;$   
 double  $*d = 2a$   
 $d = d + 1;$   
 $\text{cout} << d \rightarrow 208 \leftarrow 200 + 8$

⑨ →  $\text{inta}[5];$   
 $\text{int } *c;$   
 size of (a)  $\rightarrow 5 \times 4 = 20$   
 size of (c)  $\rightarrow 8$

⑩ →  $\text{int } a[4] = \{1, 2, 3, 4\};$   
 $*a \rightarrow 1$        $*a + 1 \rightarrow 2$

⑪ →  $a \rightarrow 200$        $200 \rightarrow 204 \rightarrow 208$   
 $a[3] = [1][2][3]$   
 $*a + 2 \rightarrow 3$

⑫ →  $a \rightarrow [1][2][3][4]$   
 $*p = a + 1;$  → Plus Bad Mehoga  
 $\text{cout} << *p \rightarrow$  Error (Runtime)  
 → Const Pointer in Stack

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(13) → arr → [4 | 5 | 6 | 7]  
 $*p = (arr + 1)$   
 $*arr + 9 \rightarrow$

(14) → char b[] = "xyz";  
 char \*c = &b[0];  
 c → xyz

[x | y | z]  
 200 201 202

[200]  
 $*c$

(15) → s[] = "hello";  
 $*p = s;$   
 $s[0] \rightarrow h$   
 $p[0] \rightarrow h$

[h | e | l | l | o]  
 $*p$

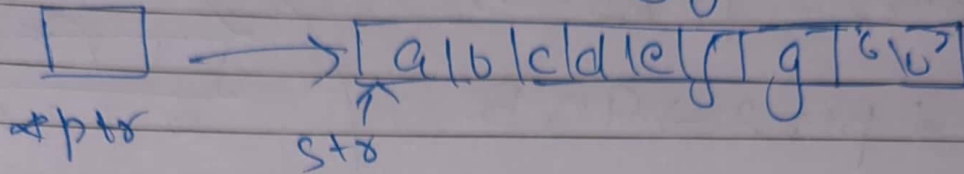
(16) → char arr[20]  
 loop → 0 to 9  $*(arr + i) = 65 + i$   
 $\rightarrow *(arr + i) = 65 + i$   $*(arr + 10) = 65 + 10$

arr → A B C D E F G H I J | 65  
 0 1 2 3 4 5 6 7 8 9 | 10



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17)  $\rightarrow$  char \* ptr  
 char str[] = "abcdefg";  
 ptr = str;  
 ptr + 5;  
 ptr  $\rightarrow$  fg



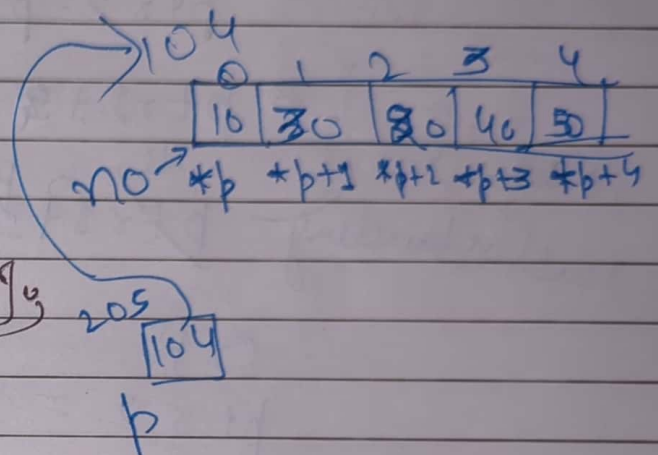
18)  $\rightarrow$  int numbers[5];  
 int \* p

p = numbers;  
 \*p = 10;

numbers[2]  $\leftarrow$  p = &numbers[2];  
 \*p = 20  
 numbers[3]  $\leftarrow$  p--;  
 \*p = 30

p = p + 3;  
 \*p = 40

p = numbers;  
 \*(p+4) = 50



p array  $\rightarrow$  10 30 20 40 50

19)  $\rightarrow$  str[] = "ABCD"  
 for(i=0) {

cout << str[i] << " (" << \*(str+i) << " (" << \*(i+str) << " (" << i << " ) << endl;

str[0] A 65 A A  
 B 66 B B  
 C 67 C C  
 D 68 D D

A + 0  $\rightarrow$  65  
 char + int  $\rightarrow$  int  
 p + count

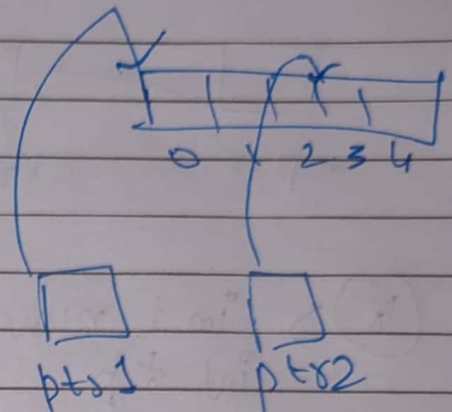
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Note  $\rightarrow$  cout  $\rightarrow$  char + Int = Int

(20)  $\rightarrow$  float a [5] = {12.5, 10.0, 18.5, 90.5, 0.5}  
 $\star ptr1 = \&a[0]$   
 $\star ptr2 = ptr1 + 3$

$\star ptr2 \rightarrow 90.5$

$ptr2 - ptr1 \rightarrow$



May  $\leftarrow$   $ptr2 - ptr1$   
 understanding  $ptr1 + 3 = ptr2$   
 $3 = 3$

OR

$ptr2 = 212 - ptr1 (200)$

$\frac{12}{4} = 3$   
 $\rightarrow$  int 4 bytes

(21)  $\rightarrow$  main ()  
 $\rightarrow$  int a = 10  
 change sign (&a)  
 $a \rightarrow -a$   
 $-10$

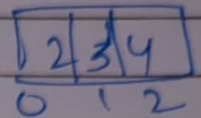
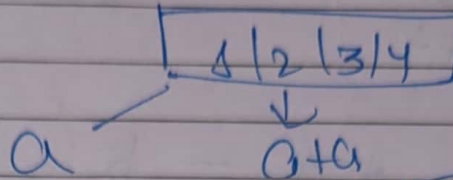
Pass by Reference  
 change sign (&a)  
 $\star p = (\star p) * -1$   
 $a = a * -1$



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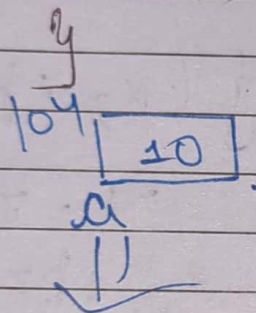
22) → main ( )  
 a → 1 1 2 3 4  
 fun(a+1)  
 A B C → 1

fun (int a [ ])  
 a[0] → 1 2

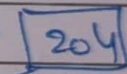
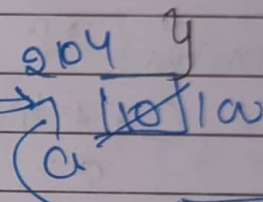


23) → main ( )  
 int a = 10;  
 square (&a);  
 a → 10

square (int \*p)  
 int a = 10;  
 b = 2a;  
 \*p = (\*p) \* (\*p)



Both are Different



No change in this

(\*p) = (\*p) \* (\*p)  
 10 = 10 \* 10 = 100

24) → main ( )  
 int x = 5;  
 p (2x);  
 x → 6

void p (int \*y)  
 int x = \*y + 2;  
 x (x);  
 \*y = x - 1;  
 x → 7

Q (int z)  
 z + z;  
 z = 7;  
 z → 14

⇒ 14 7 6

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100 | 20

(25) →

a = 10

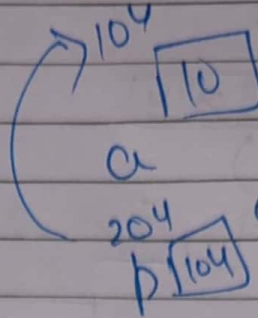
\*p = &a;

\*\*q = &p;

b = 20;

\*q = &b;

(\*p)++



\*q = p = &b = 108

(\*p)++

→ 20 + 1 = 21

a → 10

b → 21

(26) →

main()

c, \*b, \*\*a;

a = 4;

b = &c;

a = &b;

cout << f(c, b, a)

y

f(x, \*py, \*\*pp)

y, z

\*\*ppz += 1

z = \* \*\*ppz;

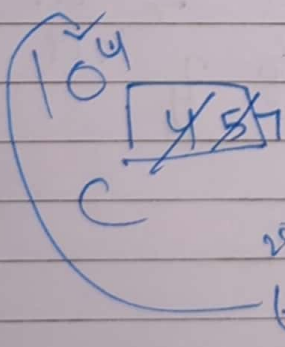
\*py += 2

y = \*py

x += 3;

x + y + z

y



x = 4 + 3 = 7

\*py  
↓  
5 + 2 = 7  
y = 7

\*\*ppz

↓  
+ 1

4 + 1 = 5

Teacher's Sign

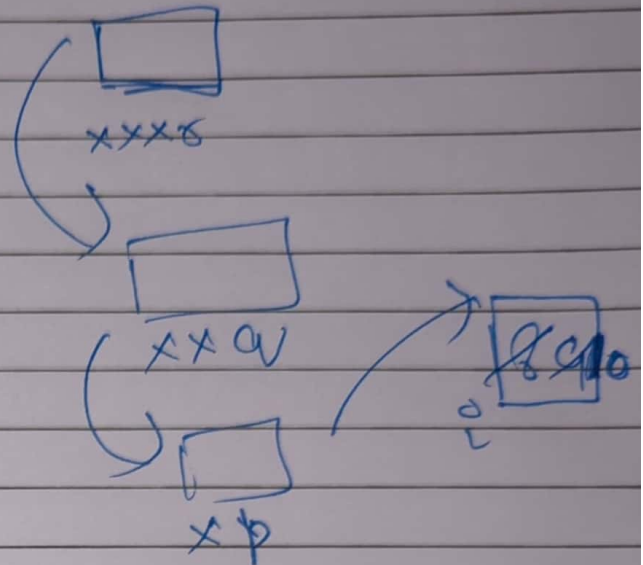


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$$x + y + z = 5 + 7 + 5 = 17$$

27)  $\rightarrow$   $\text{int } i = 8$   
 $\star p = \&i$   
 $(\star p)++$   
 $\star \star q = \&p$   
 $(\star \star q)++$   
 $\star \star \star r = \&q$

cout  $\rightarrow$   $\star p \rightarrow 10$   
 $\star \star q \rightarrow 10$   
 $\star \star \star r \rightarrow 10$



28)  $\rightarrow$  main (if  
 $\text{num} = 10$   
 $\star ptr = \&\text{num}$   
 $\text{increment}(\&\star ptr)$   
 $\text{num} \rightarrow 11$

increment ( $\text{int } \star p$ )  
 $(\star \star p)++$   
 $y$

