CS & IT ENGINEERING

C Programming

Arrays and Pointers

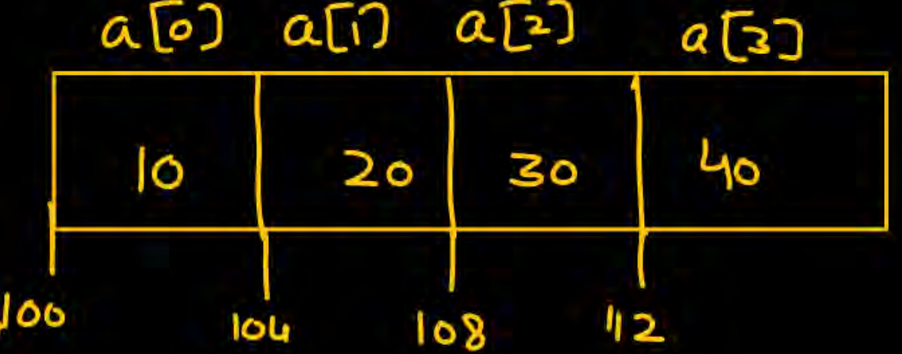
Lec - 06

By- Pankaj Sharma Sir

Arrays and Pointers (Part- 06)

1.

```
#include<stdio.h>
Void main(){
    int a[4] = {10,20,30,40};
    int *p;
    p = &a[0];
    printf("%d", *++p);
     ++*p;
     ++p;
   pf("%d", *p++);
}
```



1.

```
#include<stdio.h>
Void main(){
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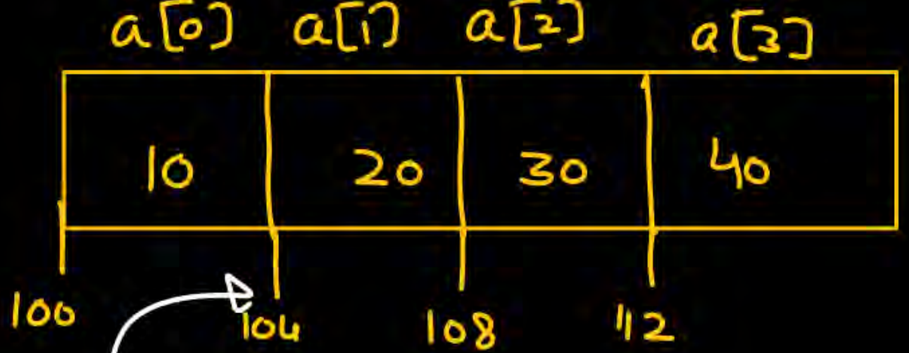


*(++p)

(i) p = p+1

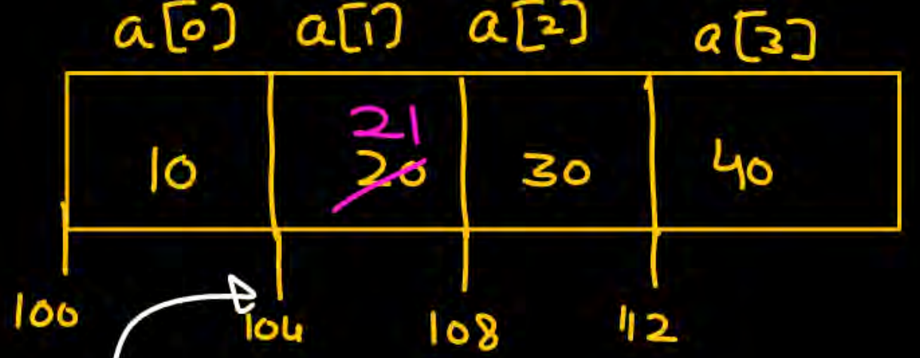
(ii) *p

pf("%d", *p) ⇒ 20

1.

```
#include<stdio.h>
Void main(){
    int a[4] = {10,20,30,40};
    int *p;
    p = &a[0];
    printf("%d", *++p);
    ++*p;
    ++p;
    pf("%d", *p++);
}
```

```
void main(){
    12;
    x=12;
    3
```



++*p → ++(*p) ⇒ (i) *p = *p + 1 ⇒ *&a[1] = *&a[1] + 1
a[1] = a[1] + 1

(ii) *p useless

1.

```
#include<stdio.h>
Void main(){
        int a[4] = {10,20,30,40};
        int *p;
        p = &a[0];
        printf("%d", *++p);
          ++*p;
          ++p;
       pf("%d", *p++);
      }
```

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void main(){
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    x=12;
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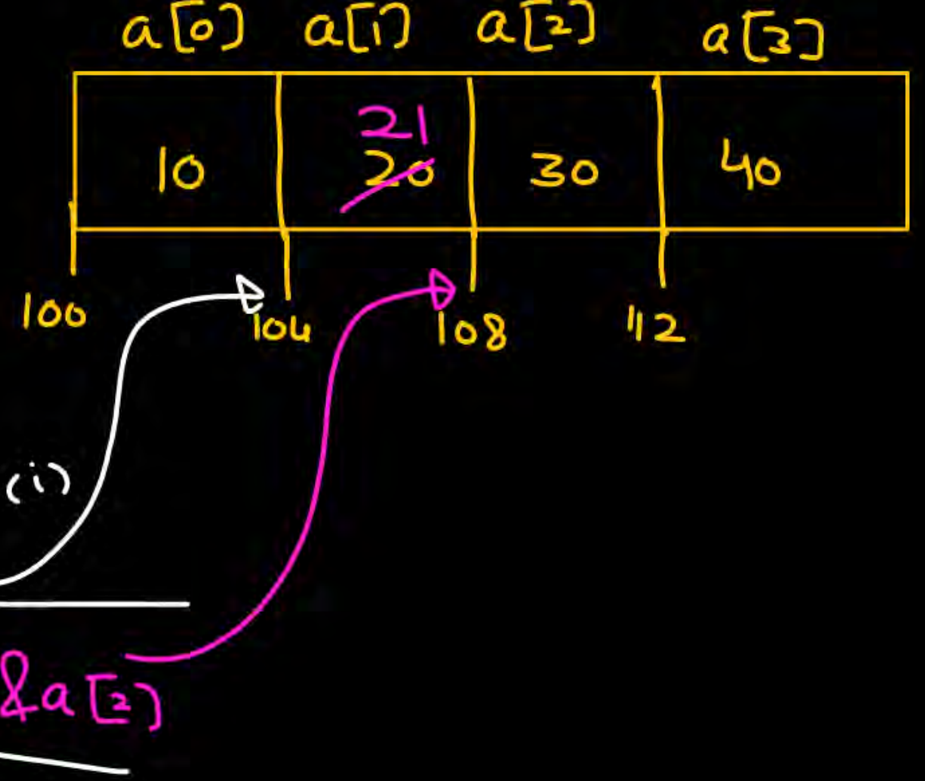

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        P = &a[0];
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          ++*p;
          ++p;
        pf("%d", *p++);
}
```
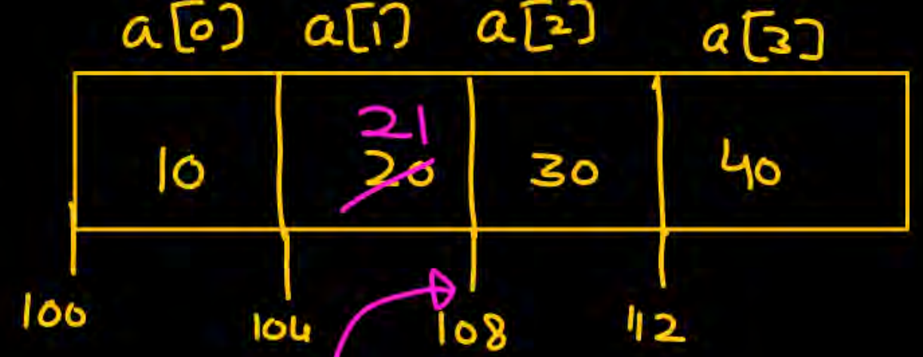

```
void main(){
    12;
    x=12;
    3
```



(i)

*(p++)

(i) pf("%d", *p); ⇒ 30

(ii) P = P+1

1.

```
#include<stdio.h>
Void main(){
        int a[4] = {10,20,30,40};
        int *p;
        P = &a[0];
        printf("%d", *++p);
          ++*p;
          ++p;
        pf("%d", *p++);
}
```

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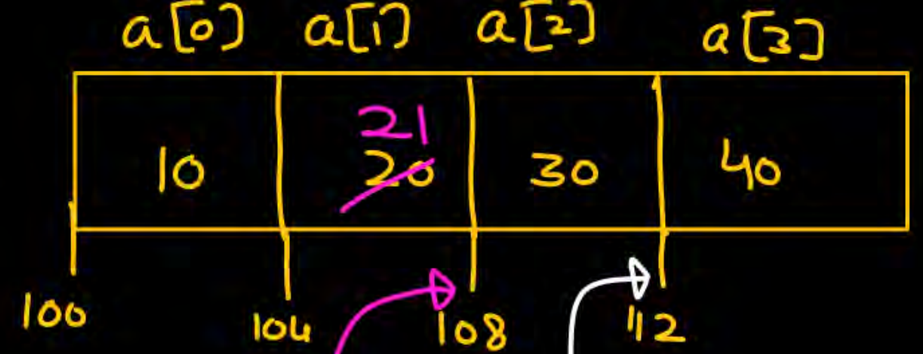
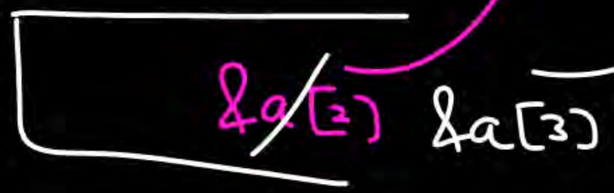
void main(){
    12;
    x=12;
    3
```



(i)

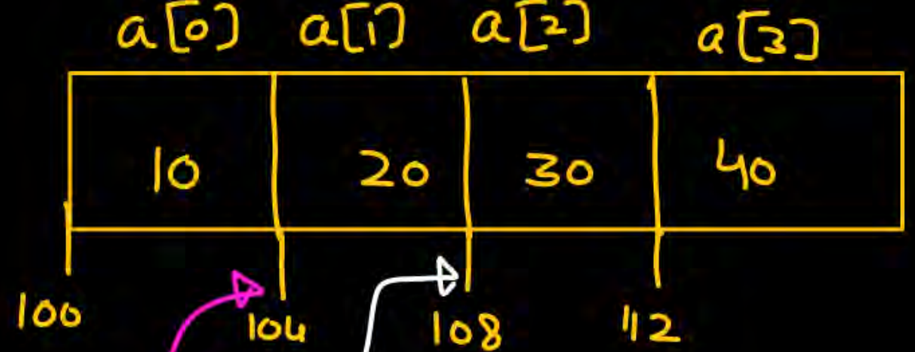


*(p++) → (i) pf("%d", *p); ⇒ 30

→ (ii) P = P+1

1.

```
#include<stdio.h>
Void main(){
        int a[4] = {10,20,30,40};
        int *p;
        p = &a[2];
        printf("%d", *--p);
          *--p;
          ++p;
        pf("%d", ++*p);
}
```



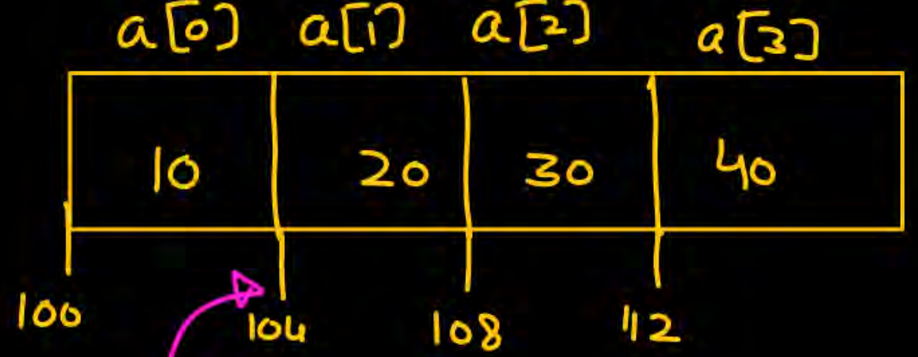
p | &a[2] &a[1]

*(--p) → (i) p = p-1

(ii) pf("%d", *p);

1.

```
#include<stdio.h>
Void main(){
        int a[4] = {10,20,30,40};
        int *p;
        P = &a[2];
        printf("%d", *--p);
          *--p;
          ++p;
        pf("%d", ++*p);
}
```



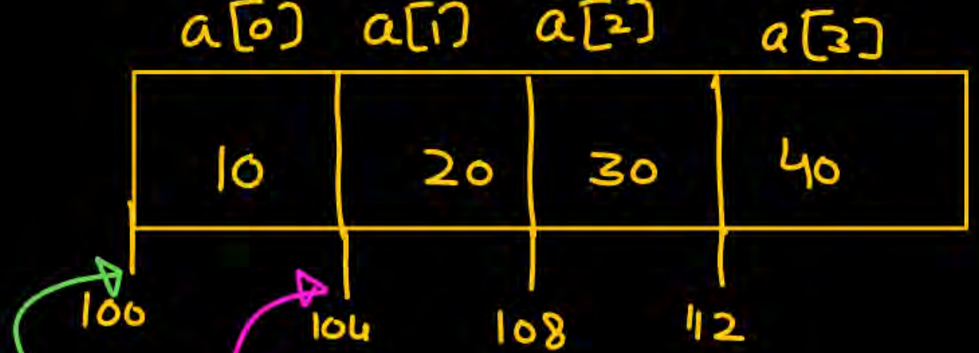
P | &a[2] &a[1]

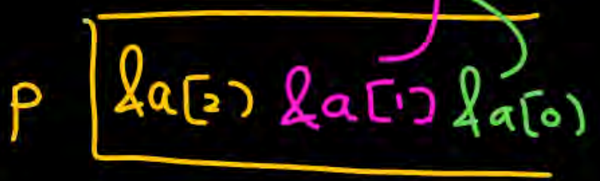
*(--P) → (i) P = P-1

(ii) pf("%d", *P); ⇒ 20

1.

```
#include<stdio.h>
Void main(){
    int a[4] = {10,20,30,40};
    int *p;
    P = &a[2];
    printf("%d", *--p);
      *--P;   ⟹   *(--P) → (i) P=P-1
      ++P;          (ii) *P
    pf("%d", *++P);
}
```





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#include<stdio.h>
Void main(){
    int a[4] = {10,20,30,40};
    int *p;
    P = &a[2];
    printf("%d", *--p);
      *--P;   ⟹   *(--P) → (i) P=P-1
      ++P;          (ii) *P
    pf("%d", *++P);
}
```
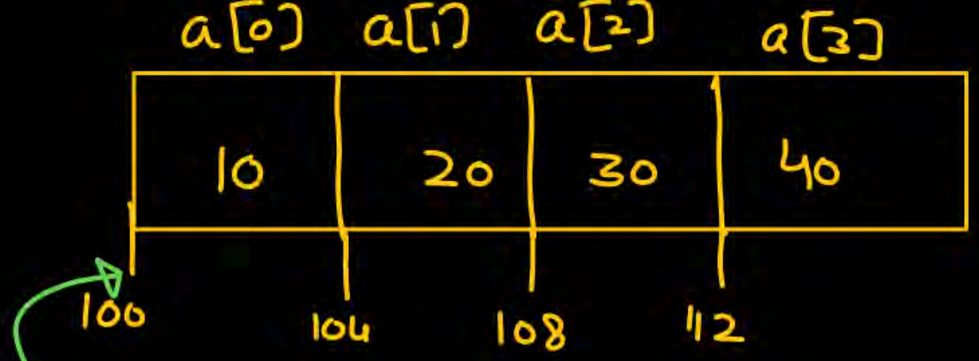
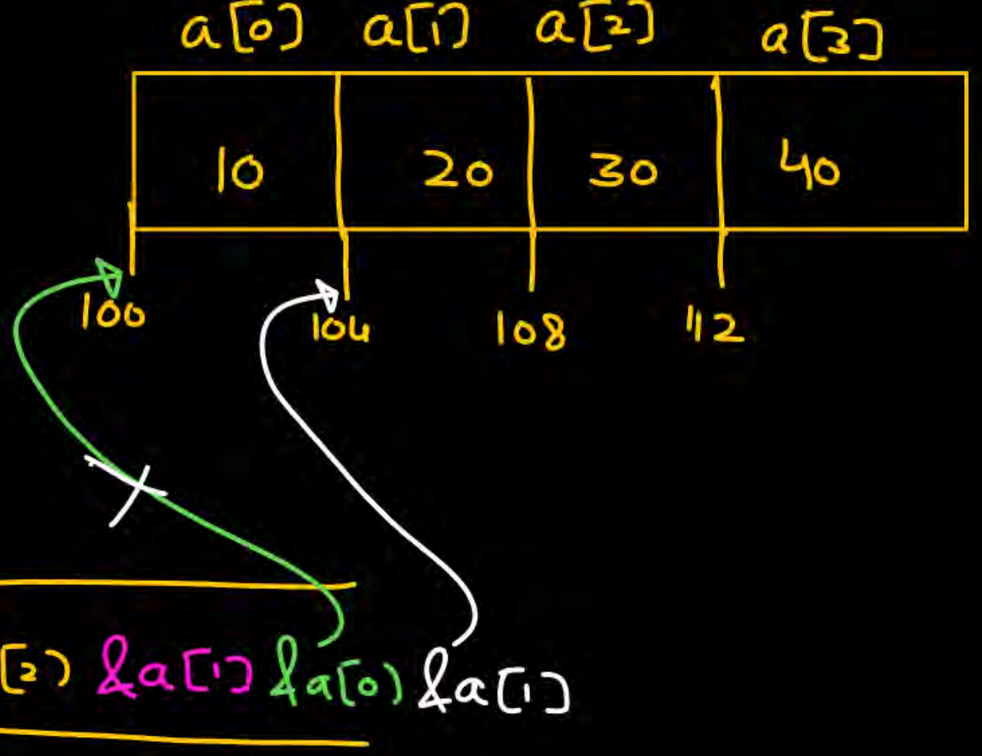

Useless



P | &a[2] &a[1] &a[0]

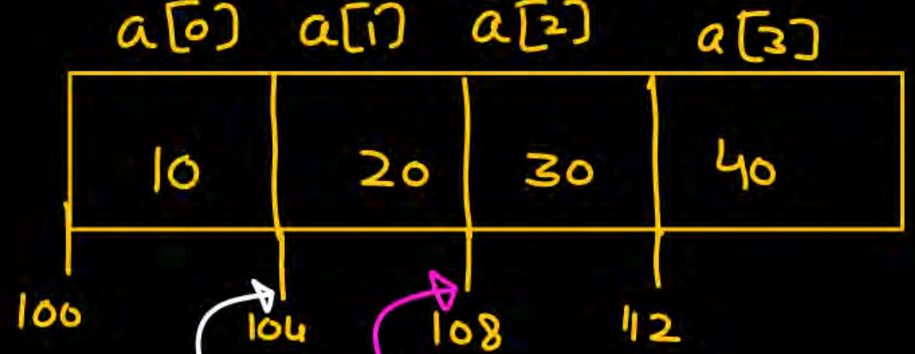
1.

```
#include<stdio.h>
void main(){
    int a[4] = {10,20,30,40};
    int *p;
    p = &a[2];
    printf("%d", *--p);
      *--p;  ⟹
      ++p;  ⟹
    pf("%d", ++*p);
}
```



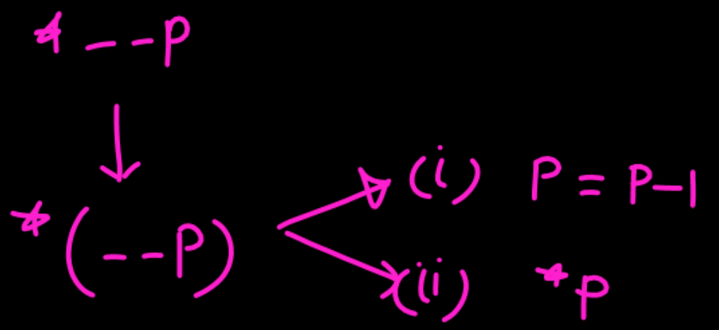
1.

```
#include<stdio.h>
Void main(){
    int a[4] = {10,20,30,40};
    int *p;
    P = &a[2];
    printf("%d", *--p);
    *--P;  ⇒
    ++P;   ⇒
    pf("%d", *++P);
}
```



P | &a[2] &a[1] &a[0] &a[1] &a[2]

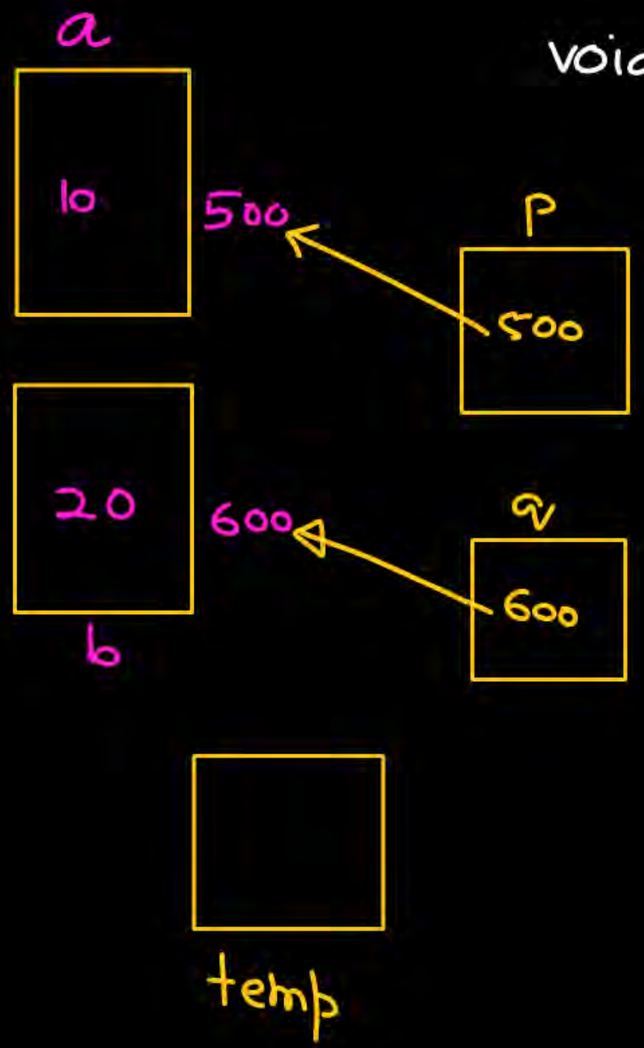
*(++P)
- (i) P = P+1 ✓
- (ii) pf("%d", *P); ⇒ 30



C ⇒ about to end

Pass by address / Call by refrence

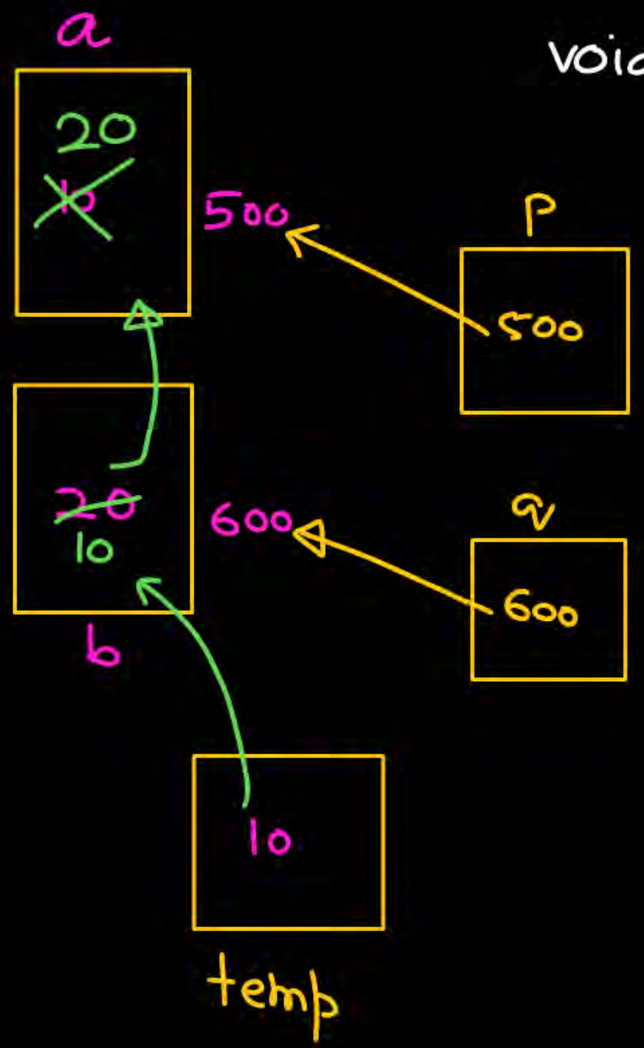
```
void main(){
    int a = 10, b = 20 ;
    printf("a = %d, b = %d", a, b);
    swap( &a, &b);
    printf("%d %d", a, b);
}
```




```
void swap( int *p, int *q)
{
    int temp ;
    temp = *p ;
}
```

Pass by address / Call by refrence

```
void main(){
    int a = 10, b = 20 ;
    printf("a = %d, b = %d", a, b);
    swap( &a, &b);
    printf("%d %d", a, b);
}
```

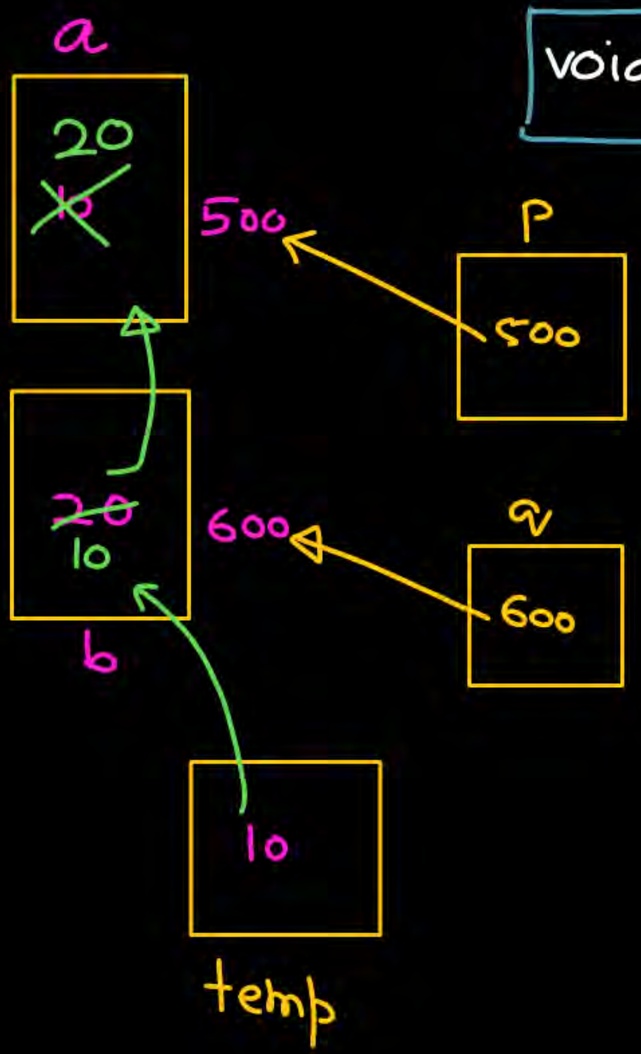



```
void swap( int *p, int *q)
{
    int temp ;
    temp = *p ;
    *p = *q ;
    *q = temp ;
}
```

Pass by address / Call by refrence

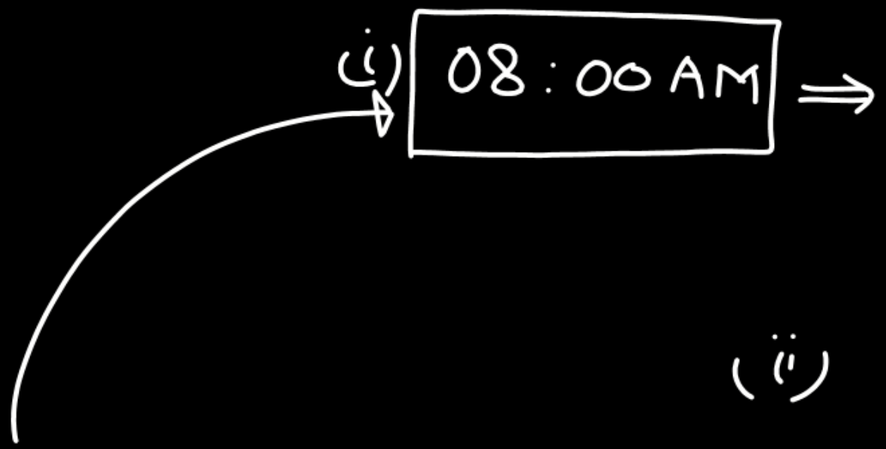
```
void swap(int *, int*);
void main(){
    int a = 10, b = 20 ;
    printf("a = %d, b = %d",a,b);
    swap( &a, &b);
    printf("%d %d",a,b);
}
```

500 600




```
void swap( int *p, int *q)
{
    int temp ;
    temp = *p ;
    *p = *q ;
    *q = temp ;
}
```

```
void main(){
  int a[4] = {10,20,30,40};
  fun(a);
  printf("%d",a[1]);
        }
```



(ii) 9:00 PM


THANK YOU GW
SOLDIERS !