CS & IT ENGINEERING



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C Programming

Arrays and Pointers

Lec - 06



TOPICS TO BE COVERED

Arrays and Pointers (Part- 06)

a[0] a[2] ali a[3] #include < statio.h> 10 20 30 Void main() { A100 12 104 108 int a[4) = {10,20,30,40}; int *P; P= &a(0); >rintf ("/d", ++ p); bt(,.\q, +b++);

a [0] a[i] #include < statio.h> 0 20 Void main() { 100 int a[4) = {10,20,30,40}; int *P; (1) P= &a[0); later &atin >rintf("./.d", ++1); þf("./.d",*p) ⇒ 20 bt(, \q, + b++);

a[2]

108

30

12

a[3]

```
void main() {
                                           a [o]
                                                 ali
                                                      a[2]
                                                             a[3]
                              12;
#include < statio.h>
                                                              40
                            71=12;
                                            10
                                                        30
Void main() {
                                        100
                                                           12
                                                     108
      int a[4) = {10,20,30,40};
      int *p;
                                       (1)
      P= &a(0);
                                 fa [1]
      printf ("/d", ++ P);
                  ++(*P) => (1) *P=*P+1 => * faci)=* faci)+1
     bt(,.\q, +b++);
                                                       9 (1) = a[1) + 1
                                         223/92U 97
```

```
void main() {
                                                   a[1) a[2]
                                              alo
                                                                 a[3]
                               12;
#include < statio.h>
                                                                 40
                              71=12;
                                               10
                                                           30
Void main() {
                                                 A lou
                                          100
                                                        80
                                                              12
       int a[4) = {10,20,30,40};
      int *p;
                                          (1)
       P= &a(0);
      printf ("/d", ++ P);
     bt(,.\q, +b++);
```

```
void main() {
                                            a [o]
                                                  ali
                                                       a[2]
                                                               a[3]
                               12;
#include < statio.h>
                                                               40
                             71=12;
                                             10
                                                         30
Void main() {
                                         100
                                                       80
                                                            12
                                                lou
      int a[4) = {10,20,30,40};
      int *p;
                                        (1)
      P= &a(0);
      printf ("/d", ++ P);
                                        2a[2)
                                         x(i) þf("/d", tp);=) 30
                              *(P++)
     bt(,.\q, +b++);
```

```
void main() {
                                             a [o]
                                                  ali
                                                        a[2]
                                                               a[3]
                               12;
#include < statio.h>
                                                                40
                             71=12;
                                              10
                                                          30
Void main() {
                                          100
                                                       801
                                                             12
                                                 lou
      int a[4) = {10,20,30,40};
      int *p;
                                         (1)
       P= &a(0);
      printf ("/d", ++ P);
                                         49(2) fa[3)
                                          *(i) þf ("/d", *P);=) 30
                              *(P++)
     bt(,.\q, +b++);
```

```
a[2]
                                            a [0]
                                                 ali
                                                              a[3]
#include < statio.h>
                                                               40
                                             10
                                                   20
                                                         30
Void main() {
                                         100
                                                      108
                                                            12
      int a[4) = {10,20,30,40};
      int *p;
      P= &a[2];
                                    La[2) La[1)
      printf ("/d", +-- p);
                          *(--P) & (i) P=P-1~
                                    (ii) þf("/d",*P).
     bf(, \q, +++b);
```

a[2] a [0] ali a[3] #include < statio.h> 40 0 20 30 Void main() { 100 12 108 int a[4) = {10,20,30,40}; int *p; P= &a[2]; la[=> la[i) printf ("/d", + -- p); *(--P) & (i) P=P-1~ (ii) þf("/d",*p). => 20 bf(".\q", +++b);

a [0] #include < statio.h> 0 Void main() { 100 int a[4) = {10,20,30,40}; int *p; P= &a[2]; la[=) la[i] la[o) printf ("/d", +-- p); * -- P; => * (--P) -= (i) P= P1 41-P; >f("./d", +++p);

a[1) a[2]

108

30

12

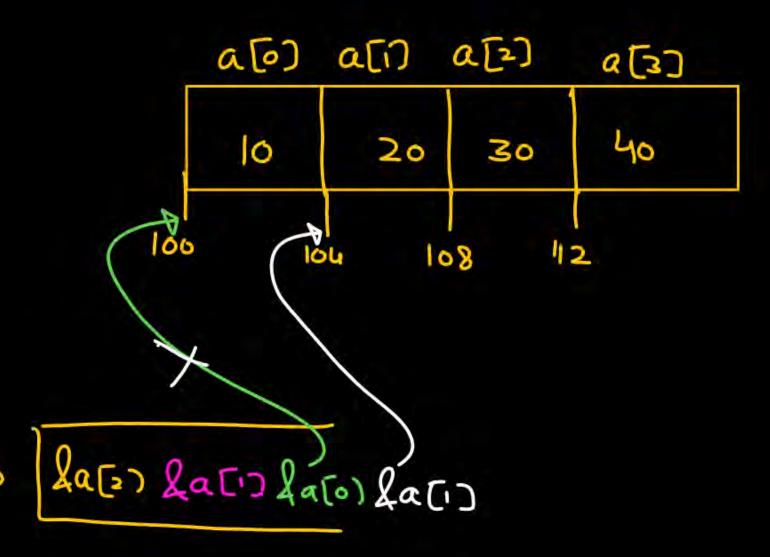
20

a[3]

```
a[1) a[2]
                                            a [0]
#include < statio.h>
                                             0
                                                    20
                                                         30
Void main() {
                                         100
                                                            12
                                                lou
                                                      108
      int a[4) = {10,20,30,40};
      int *p;
      P= &a[2];
                                   la[2) la[1) la[0)
      printf ("/d", +-- p);
       * -- P; => * (--P) - & (i) P= PI
        44P;
                                          useless
     bf(".\q", +++b);
```

a[3]

#include < statio.h> void main() { int a[4) = {10,20,30,40}; int *p; P= &a[2]; printf ("/d", + -- P); >f(".\d", +++p);



a [0] a[i] a[2] a[3] #include < statio.h> 40 0 20 30 Void main() { 100 int a[4) = {10,20,30,40}; int *p; P= &a[2]; la[2) la[1) la[0) la[1) la[2] printf ("/d", + -- P); 4(++b) >(ii) pt (".\q", +b); => 30 >f(, \q, +++b);

$$4 - -P$$

$$(i) P = P - I$$

$$(--P)$$

$$(ii) P = P - I$$

Pass by address / Call by refrence

```
a
                                         void swap (int "P, int "qr)
void main() {
                          0
                               500
  int a = 10, b = 20;
                                                  int temp:
 orinf ('a=/d,b=/d',a,b);
                                        500
                                                 temp = Mp;
 swap ( &a, &b);
                          20
                              600€
 brinff ("/d /d",a,b);
                           6
                              temp
```

Pass by address / Call by refrence

a void swap (int *P, int *q) void main() { 20 500 int a = 10, b = 20; int temp ; printf ('a=/d,b=/d',a,b); 500 swap (&a, &b); 6000 printf ("/d /d",a,b); 600 0 temp

Pass by address / Call by refrence

```
void swap (int +, int +):
                             a
                                             void swap (int "P, int "q)
void main() {
                             20
                                  500
   int a = 10, b = 20;
                                                      int temp;
  orinf ('a=/d,b=/d',a,b);
                                            500
  swap ( La , lb);
                                  6000
  printf ("/d /d",a,b);
                                   0
                                 temp
```

```
void main() {

int a[4] = {10,20,30,40};

fun(a);

printf("./d",a[1]);
}
```



