CS & IT ENGINEERING

Programming in C

Arrays and Pointer

DPP 03 Discussion Notes



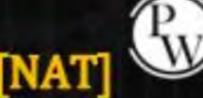
By- Pankaj Sharma sir



TOPICS TO BE COVERED

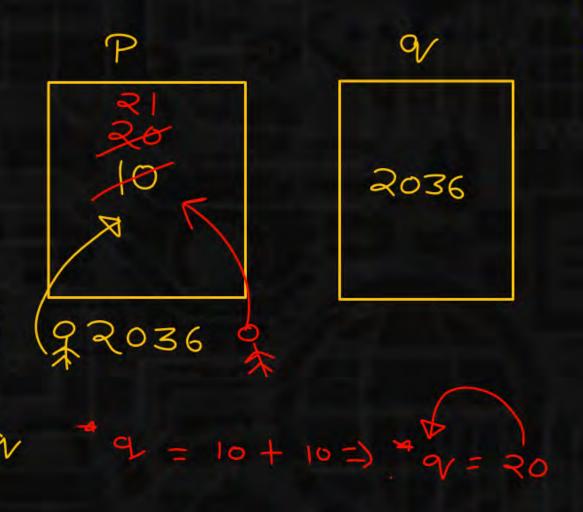
01 Question

02 Discussion



```
#include<stdio.h>
int main()
   int p=10, *q;
                 *9 = (P++)+(*9)
   q=&p;
   *q=p+++*q;
  printf("%d", *q); (i) q = P + q q = 10 + 10 = 0 return 0; (ii) P = P + 1
```

The output is _____.





```
#include<stdio.h>
                             A.
int * f(){
                                                                 Runtime Error
                                     Compilation Error
static int a[4] = \{1, 2, 3, 4\};
return (a; ) & a [o)
                                     357
                                                                 None
                                           a[0] a[1]
                                                         a(2)
                                                                 a[3)
int main(){
                                                   2
                                                          3
                                                                  4
 int *p, i;
 p=f();
                                         000
                                                 1004
                                                       8001
 for(i=0;i<3;i++){}
                                                               1012
printf("%d\t", p[i]+p[i+1]);
return 0;
                                    1000
```

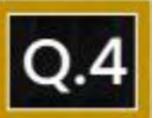
The output is-



```
#include<stdio.h>
                                                                  Runtime Error
int * f(){
                                     Compilation Error
static int a[4]=\{1, 2, 3, 4\}; return a; (i) i = 0
                                     357
                                                                  None
                P[0]+P[1)
                                                                  a[3)
                                                         a(2)
                                           rator ali)
int main(){ *(P+0) + *(P+1)
                                                    2
                                                           3
int *p, i; |+2 \Rightarrow 3|
p=f(); (1) (= 1
for (i=0; i<3; i++) { (?+i)+*(?+2)
printf("%d\t", p[i]+p[i+1]);
return 0; (ii) is a
The output is-
```

```
Consider the following program:
#include<stdio.h>
int main()
  int p=10, s=20, *q, **r;
  q=&p;
  *q=p+++*q;
              (i) #q=P+4q
  q=&s;
              (ii) P=P+1
  r=&q;
                  ag = 10 + 10 = 20
printf("%d", p+s);
  return 0; 21+361 = 382
```

The output is



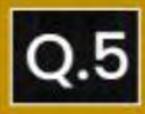
```
#include<stdio.h>
int * f()
  int a[4]=\{1, 2, 3, 4\};
   return a;
   int main()
  int *p, i;
   p=f();
   for(i=0;i<3;i++){}
   printf("%d\t", p[i]+p[i+1]);
 return 0;
The output is-
```

Compilation Error

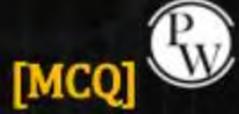
357

Runtime Error

None



Consider the following statements:



P: int * p(int *) - p is a function that takes an integer pointer as

argument and returns an nteger pointer.

int (*p(int *))[] - p is a function that takes an integer pointer as

argument and returns a pointer to an array of integers.

Which of the following is INCORRECT?

int P (int 7)

- A. P only
- C. Both P and Q

B. Q only

Pisa function that takes
a pointer to integer as argument
and returns pointer to integer

D.

Neither P nor Q

int (X HRight M)[]

Pis a function that takes integer pointer as argument and returns bounder to greay of integer

```
Consider the following program:
                                           ⇒ &a[v)+1=8a[/
                                                   #lati) = a[i] - 8a[i)[o]
#include<stdio.h>
                               #q/[1)
void f(int (*q)[2]){
printf("%d\t",(*q)[1]);
                                                          )[0] = a[i](0)
                           A.
q+=2;
                                412
printf("%d",(*q)[1]);
                                                               26
                                2 10
int main()
    XX2=6 => X=3
                                   9(0)(0) a(0)(1) a(1)(0) a(1)(1)
                                                              atio) ation
int a[][2]=\{2,4,6,8,10,12\};
                                           4
                                                 6
                                                         8
                                                                 0
                                                                       12
f(ptr);
          Pl-v is a Bointer
                                                                   120
                                 100
                                        104
                                             108
return 0; to an away of
                         100
                                                    alis
            3 integer.
                         Ptx
                                       9[0]
```

2aro]

The output is:

 $a_1 = 2a[0]$ $(*a_1) = *2a[0] = a[0] = 2a[0][0]$ [MCQ]

#include<stdio.h> void f(int (*q)[2]){

(*a)[1)=*(*a+1) =

printf("%d\t",(*q)[1]); q+=2;

412

48

printf("%d",(*q)[1]);

210

26

int main()

XX2=6 => X=3

int a[][2]= $\{2,4,6,8,10,12\}$;

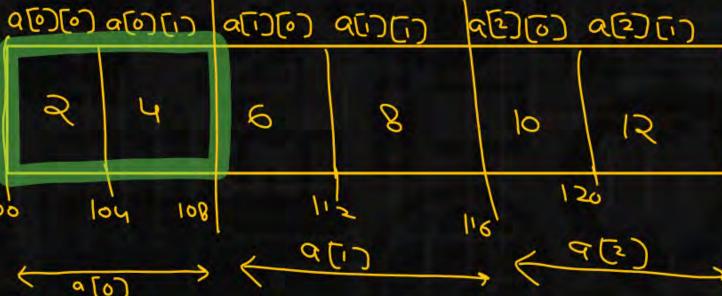
int (*ptr)[2] $\neq a$

f(ptr); Pl-v is a bomler return 0; to an away of

3 integer.

100

4 100 104 108 9[0]



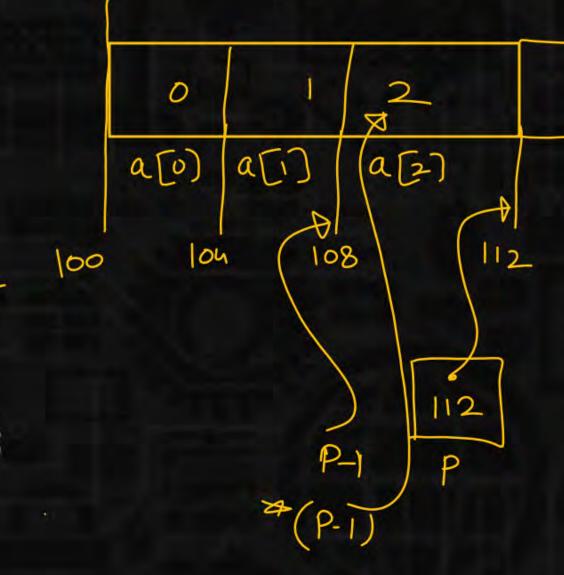
The output is:

Q.6

Consider the following program: q = 2a[0]q = 2a[0]



```
#include<stdio.h>
                               (*ar) = $\fa[2] = a[2] = \langle \langle a[2][0]
void f(int (*q)[2]){
                                ( * av)[1) = ( * a(2)[0]+1)
printf("%d\t",(*q)[1]);
                                                           48 - 48 9[27[1]
q+=2;
                               412
printf("%d",(*q)[1]);
                                                            26
                               2 10
int main()
    XX2=6=>x=3
                                 a6060 a6060 a6060 a6060 a6060 a6060
int a[][2]=\{2,4,6,8,10,12\};
                      fa[0]
                                         4
                                               6
                                                      8
                                                              0
f(ptr);
         Ptv is a bomler
                                                                120
return 0; to an away of
                                100
                                      104
                                                  alis
            3 integer.
                                     9[0]
The output is:
```



The output is-



Garbage value

В.

Segmentation fault

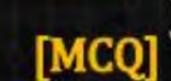


D. C

Compilation Error

fun(6)

2,4

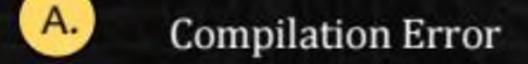


[MCQ]

```
Consider the following program:
```

```
#include<stdio.h>
void fun(int n){
for(n--;--n;--n)
printf("GATE WALLAH");
int main(){
void (*p)(int)=fun;
(*p)(6);
return 0;
```

The output is-



Runtime Error

Printf() is executed infinite number of times

Print() is executed two times



