

Practice Questions (3)

Pointers. Pointers and Arrays. Arrays of Pointers.

Write the output on the screen or ERROR if the code contains any error. In case of an error indicate what the error is. Assume that `#include <stdio.h>` appears at the beginning of each source file.

- a)

```
int main(void){
    int *ptr;
    ptr = &456;
    printf("%d", *ptr);
    return 0;
}
```
- b)

```
int main(void){
    int *ptr, n;
    ptr=&n;
    *ptr = 456;
    printf("%d", n);
    return 0;
}
```
- c)

```
int main(void){
    int *ptr1, *ptr2, n=3;
    ptr1 = &n;
    &n = ptr2;
    *ptr2 = 10;
    printf("%d", *ptr1);
    return 0;
}
```
- d)

```
int main(void){
    int *ptr1, *ptr2, n=3;
    ptr1 = &n;
    ptr2 = &n;
    *ptr2 = 20;
    printf("%d", *ptr1);
    return 0;
}
```
- e)

```
int main(void){
    int *ptr1, *ptr2, n=1;
```

```

    ptr1 = &n;
    ptr2 = &*ptr1;
    printf("%d", *ptr2);
    return 0;
}

```

f) `int main(void){`
 `int *ptr1, n=3;`
 `ptr1 = &n;`
 `(*ptr1 + 2)++;`
 `printf("%d", *ptr1);`
 `return 0;`
`}`

g) `int main(void){`
 `int *ptr1, n=3;`
 `ptr1 = &n;`
 `(*ptr1)++ ;`
 `printf("%d", *ptr1);`
 `return 0;`
`}`

h) `int main(void){`
 `int aa[] = { 10,20,30,40};`
 `int *p = aa;`
 `printf("%d", *(p++));`
 `return 0;`
`}`

i) `int main(void){`
 `int aa[] = { 10,20,30,40};`
 `int *p = aa;`
 `printf("%d", *(++p));`
 `return 0;`
`}`

j) `int main(void){`
 `int aa[] = { 10,20,30,40};`
 `int *p = aa;`
 `printf("%d", *(++aa));`
 `return 0;`
`}`

k) `int main(void){`

```

        int aa[ ] = { 10,20,30,40};
        int *p = aa;
        printf("%d", *(++aa));
        return 0;
    }

```

l) `int main(void){`
 `int aa[] = { 10,20,30};`
 `int *p = aa;`
 `*(p+2) = 50;`
 `printf("%d,%d,%d\n", aa[0], aa[1], aa[2]);`
 `return 0;`
`}`

m) `int main(void){`
 `int aa[] = { 10,20,30};`
 `int *p = aa;`
 `printf("%d,%d,%d\n", p[0], p[1], p[2]);`
 `return 0;`
`}`

n) `int main(void){`
 `int aa [] = { 10,20,30};`
 `int *p = aa;`
 `*(aa+1) = 70;`
 `printf("%d,%d,%d\n", p[0], p[1], p[2]);`
 `return 0;`
`}`

o) `int main(void){`
 `int aa[] = { 10,20,30};`
 `int *p = aa+2;`
 `printf("%d\n", p[-1]);`
 `return 0;`
`}`

p) `int main(void){`
 `int aa[] = { 10,20,30};`
 `int *p = aa+2;`
 `printf("%d\n", p[1]);`
 `return 0;`
`}`

q) `void mystery1(double *p1, double *p2){`

```

    *p1 = *p2;
    *p2 = *p1;
}

```

```

int main(void){
    double x1=10.0, x2=20.0;
    mystery1( &x1, &x2);
    printf("%.1f,%.1f\n", x1, x2);
    return 0;
}

```

```

r) int main(void){
    int *p, **pp, n=10;
    p = &n;
    pp = &p;
    printf("%d", 2***pp);
    return 0;
}

```

```

s) int main(void){
    int a[ ] = {1,2,3}, b[ ] = {4,5}, c[ ]={6,7,8}, d[ ] = {9,10};
    int *pp[ ]={a,b,c,d};
    printf("%d", *((pp+2) + 1));
    return 0;
}

```

```

t) int main(void){
    int a[ ] = {1,2,3}, b[ ] = {4,5}, c[ ]={6,7,8}, d[ ] = {9,10};
    int *pp[ ]={a,b,c,d};
    printf("%d", *(pp[ 0 ] + 2));
    return 0;
}

```

```

u) void mystery2(int **pp1, int **pp2){
    int *temp;
    temp = *pp1;
    *pp1 = *pp2;
    *pp2 = temp;
}

```

```

int main(void){
    int a[ ] = {1,2,3}, b[ ] = {4,5}, c[ ]={6,7,8}, d[ ] = {9,10};
    int *pp[ ]={a,b,c,d};
    mystery2 (pp+2, pp+3 );
}

```

```
    printf("%d", pp[3][2] );  
    return 0;  
}
```