

C-79 → Problems on Pointers

Important Questions with Answers

Problem (1)

```
void main()
```

```
{
```

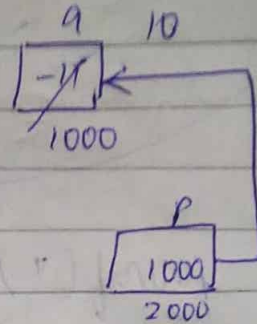
```
    int a = -11;
```

```
    int *P = &a;
```

```
    *P = 10;
```

```
    printf("%d", a);
```

```
}
```



Problem (2)

```
void main()
```

```
{
```

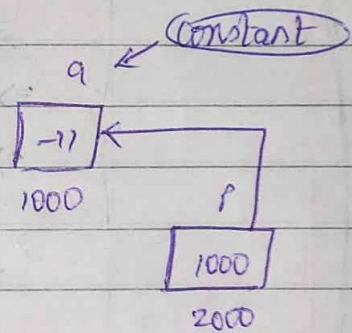
```
    const int a = -11;
```

```
    int *P = &a;
```

```
    *P = 10;
```

```
    printf("%d", a);
```

```
}
```



* since variable 'a' is constant keyword we cannot change value of 'a'.

* so pointer should always have same datatype.

Problem (3)

```
const int a = -11;
```

```
const *P = &a;
```

```
*P = 10;
```

```
printf("%d", a);
```

```
⇒ Error
```

Problem 4

```
int a = -11;  
const *P = &a;  
*P = 10;  
printf("%d", a); ⇒
```

Problem 5

```
void main()
```

```
{
```

```
char str[] = "welcome to Jenny's lectures";
```

```
char *ptr = str;
```

```
printf("%c", *ptr); ⇒ (w)
```

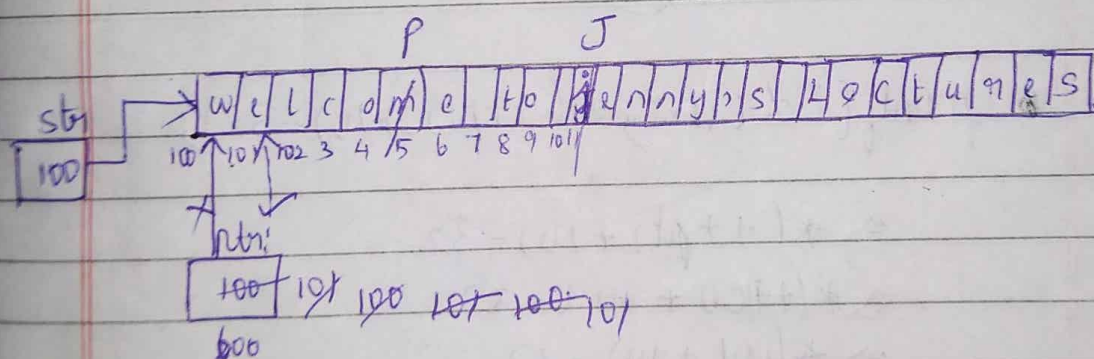
```
printf("%c", *(ptr++ + 1)); ⇒ (E) ⇒ (P)
```

```
printf("%c\n", *((ptr-- + 5) - 1) + 3); printf("%c", *105)
```

```
printf("%c\n", *(&ptr + 10) - 32);
```

```
printf("%c %c %c", *ptr, *++ptr, *--ptr);
```

```
}
```



```
• printf("%c", *ptr); ⇒ (w)
```

```
• printf("%c", *(ptr++ + 1)); ⇒ (E)
```

```
⇒ *(ptr++ + 1)
```

```
⇒ *(100 + 1) ⇒ *101 ⇒ (E)
```


- $\text{powertf}(" \%c^n", *((\text{nbr} - - +5) - 1) + 3);$ = (P)

$$\Rightarrow *((pbr - +5) - 1) + 3$$

$$\Rightarrow 101 - (-5) - 1 + 3$$

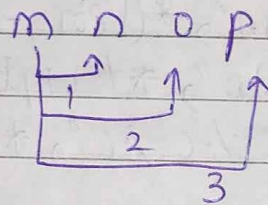
$$\Rightarrow *((101 + 5) - 1) + 5)$$

$$\Rightarrow * (106-1) + 3$$

$$\Rightarrow * (105) + 3$$

↓
higher priority

$$\Rightarrow m + 3$$



$$\Rightarrow \textcircled{P}$$

```
printf("%c\n", *(++ptr + 10) - 32);
```

$$\Rightarrow *(++ptr + 10) - 32$$

$$\Rightarrow * (+100 + 10) = 32$$

$$\Rightarrow * (101 + 10) - 32$$

$$\Rightarrow * (111) = 32$$

$$\Rightarrow f - 32$$

$$\Rightarrow (\text{J}) - 32$$

(ASCII value)

25

• `printf("%c %c %c", *ptr, ++ptr, *--ptr);`

$\Rightarrow (*ptr, ++ptr, *--ptr);$

\leftarrow right to left.

, *--ptr

*--101

* 100

, (w)

, ++ptr,

, ++100,

, 101,

, (e),

*ptr,
(e)

(e, e, w)

PROBLEM 1:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /** 3 - POINTER IMPORTANT QUESTIONS **/
4  /** PROBLEM 1 **/
5  int main()
6  {
7      int a=-11;
8      int *p=&a;
9      printf("Value in address of p:%d\n",a);
10     *p=10;
11     printf("Value in address of p:%d\n",a);
12     getch();
13 }
14
```

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```
Value in address of p:-11
Value in address of p:10
_
```

PROBLEM 2:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /** 3 - POINTER IMPORTANT QUESTIONS **/
4  /** PROBLEM 2 **/
5  int main()
6  {
7      const int a=-11;
8      int *p=&a;
9      printf("Value in address of p:%d\n",a);
10     *p=10;
11     printf("Value in address of p:%d\n",a);
12     getch();
13 }
14
```

PROBLEM 3:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /** 3 - POINTER IMPORTANT QUESTIONS **/
4  /** PROBLEM 3 **/
5  int main()
6  {
7      const int a=-11;
8      const int *p=&a;
9      printf("Value in address of p:%d\n",a);
10     *p=10;
11     printf("Value in address of p:%d\n",a);
12     getch();
13 }
14
```

Logs & others

| Code::Blocks Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck | | |
|------------------------------------------------------------------------------------|------|----------------------------------------------|
| File | Line | Message |
| === Build: Debug in 3_POINTER IMPORTANT QUESTIONS(3) (compiler: GN... | | |
| In function 'main': | | |
| D:\1. C NO... | 10 | error: assignment of read-only location '*p' |

PROBLEM 4:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /** 3 - POINTER IMPORTANT QUESTIONS **/
4  /** PROBLEM 4 **/
5  int main()
6  {
7      int a=-11;
8      const int *p=&a;
9      printf("Value in address of p:%d\n",a);
10     *p=10;
11     printf("Value in address of p:%d\n",a);
12     getch();
13 }
14
15
```

ogs & others

| Code::Blocks Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck | | |
|------------------------------------------------------------------------------------|------|----------------------------------------------|
| File | Line | Message |
| === Build: Debug in 3_POINTER IMPORTANT QUESTIONS(4) (compiler: GN... | | |
| In function 'main': | | |
| D:\1. C NO... | 10 | error: assignment of read-only location '*p' |

PROBLEM 5:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /** 3 - POINTER IMPORTANT QUESTIONS **/
4  /** PROBLEM 5 **/
5  int main()
6  {
7      char str[]="Welcome to jenny's lectures";
8      char *ptr=str;
9      printf("%c\n", *ptr);
10     printf("%c\n", *(ptr++ +1));
11     printf("%c\n", *((ptr-- +5)-1)+3);
12     printf("%c\n", str[5]);
13     printf("%c\n", *(++ptr+10)-32);
14     printf("%c\n", str[11]);
15     printf("%c %c %c", *ptr, *++ptr, *--ptr);
16     getch();
17 }
18
```

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W
e
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j
e e W