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## Chapter 12

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## Changing a number using a pointer

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- (1) Changing a number done
- (2) Changing a number using a pointer done



The C program introduced in the previous exercise has been changed. This time, the program prompts the user for an integer and stores it in the variable x. The program prints the number, calls the subroutine "change\_number" passing the address of the variable x as an argument, and finally prints the value of the variable x again:

```
#include<stdio.h>

void change_number(int *x);

int main()
{
    int x;
    printf("Enter the number x: ");
    scanf("%d", &x);
    printf("In the main program: x = %d\n", x);
    change_number(&x);
    printf("In the main program: x = %d\n", x);
}
```

Your task is to write the subroutine "change\_number" that takes the address of the variable x, increases the value of the variable by three and prints the changed number as shown in the example printout. As you can see in the example printout, the subroutine will permanently change the value of the variable x in the main program.

*Example output:*

```
Enter the number x: 555
In the main program: x = 555
In the subroutine: x = 558
In the main program: x = 558
```

The verification of program output does not account for whitespace characters like "n", "t" and " "

• [program.c](#)

```
1 #include<stdio.h>
2
3 void change_number(int *x);
4
5 int main()
6 {
7     int x;
8     printf("Enter the number x: ");
9     scanf("%d", &x);
10    printf("In the main program: x = %d\n", x);
11    change_number(&x);
12    printf("In the main program: x = %d\n", x);
13    return 0;
14 }
15
16 void change_number(int *x)
17 {
18
19     printf("In the subroutine: x = %d\n", *x+=3);
20 }
21
22
```

Position: Ln 14 Ch 1

Full screen (Esc to exit)

Reset

Save

Run