

Write a program that swaps the values of two variables.

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Write a program that swaps the values of two variables using temporary variable.

Program In C

C

```
#include <stdio.h>

int main() {
    int a, b, temp;

    printf("Enter the value of a: ");
    scanf("%d", &a);

    printf("Enter the value of b: ");
    scanf("%d", &b);

    printf("\nBefore swapping:\n");
    printf("a = %d\n", a);
    printf("b = %d\n", b);

    temp = a;
    a = b;
```

Write a program that swaps the values of two variables.

```
    b = temp;

    printf("\nAfter swapping:\n");
    printf("a = %d\n", a);
    printf("b = %d\n", b);

    return 0;
}
```

Explanation:

- When you run this program, it will prompt the user to enter the values of a and b.
- After the user inputs the values, the program will swap their values using a temporary variable temp.
- It will then print the values of a and b before and after swapping.
- In this program, we declare three variables a, b, and temp of type int.
- We use printf() to display the prompt messages and scanf() to read the user input.
- The values of a and b are swapped by assigning the value of a to temp, then assigning the value of b to a, and finally assigning the value of temp to b.
- We use printf() to display the values of a and b before and after swapping.

Output:



```
Enter the value of a: 4
Enter the value of b: 2

Before swapping:
a = 4
b = 2
```

Write a program that swaps the values of two variables.

After swapping:

a = 2

b = 4

Program In Java

Java

```
import java.util.Scanner;

public class SwapNumbers {
    public static void main(String[] args) {
        int a, b, temp;
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the value of a: ");
        a = scanner.nextInt();

        System.out.print("Enter the value of b: ");
        b = scanner.nextInt();

        System.out.println("\nBefore swapping:");
        System.out.println("a = " + a);
        System.out.println("b = " + b);

        temp = a;
```

Write a program that swaps the values of two variables.

```
        a = b;  
        b = temp;  
  
        System.out.println("\nAfter swapping:");  
        System.out.println("a = " + a);  
        System.out.println("b = " + b);  
    }  
}
```

Explanation:

1. `import java.util.Scanner;`: This line imports the `Scanner` class from the `java.util` package. It is used for reading user input.
2. `public class SwapNumbers:` This line declares a public class named `SwapNumbers`.
3. `public static void main(String[] args):` This is the main method that serves as the entry point of the program.
4. `int a, b, temp;`: Declares three integer variables `a`, `b`, and `temp` to store the input values and perform the swap operation.
5. `Scanner scanner = new Scanner(System.in);`: Creates a new `Scanner` object named `scanner` to read user input from the console.
6. `a = scanner.nextInt();` and `b = scanner.nextInt();`: These lines prompt the user to enter values for `a` and `b` using `System.out.print` and read the integer input using `scanner.nextInt()`.
7. `System.out.println("\nBefore swapping:");`: Prints a message indicating the values before swapping.
8. `System.out.println("a = " + a);` and `System.out.println("b = " + b);`: Prints the values of `a` and `b` before swapping.
9. `temp = a;`, `a = b;`, and `b = temp;`: These lines perform the swap operation by storing the value of `a` in `temp`, assigning the value of `b` to `a`, and then assigning the value of

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temp (initial value of a) to b.

10. `System.out.println("\nAfter swapping:");` Prints a message indicating the values after swapping.
11. `System.out.println("a = " + a);` and `System.out.println("b = " + b);` Prints the values of a and b after swapping.

Output

```
Enter the value of a: 4
Enter the value of b: 2

Before swapping:
a = 4
b = 2

After swapping:
a = 2
b = 4
```

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