

Experiment 3: Conditional Statements

3.4. WAP to check if three points (x_1, y_1) , (x_2, y_2) and (x_3, y_3) are collinear or not.

Ans-

```
#include <stdio.h>

int main() {
    printf("Name - Aryan kamboj\nSAP ID - 590025526\ncourse - BCA\nBatch -
6");
    printf("\n-----\n");
    int x1, y1, x2, y2, x3, y3;

    printf("Enter point 1 (x1 y1): ");
    scanf("%d %d", &x1, &y1);

    printf("Enter point 2 (x2 y2): ");
    scanf("%d %d", &x2, &y2);

    printf("Enter point 3 (x3 y3): ");
    scanf("%d %d", &x3, &y3);

    int area = x1 * (y2 - y3) +
               x2 * (y3 - y1) +
               x3 * (y1 - y2);

    if (area == 0)
        printf("The points are COLLINEAR.\n");
    else
        printf("The points are NOT collinear.\n");

    return 0;
}
```

Output :

```
● aryankamboj@users-MacBook-Air lab_4 % cd "/Users/aryankamboj/Desktop/c_programming_theory/lab_4/" && gcc  
3.4.c -o 3.4 && "/Users/aryankamboj/Desktop/c_programming_theory/lab_4/"3.4  
Name - Aryan kamboj  
SAP ID - 590025526  
course - BCA  
Batch - 6  
-----  
Enter point 1 (x1 y1): 1 1  
Enter point 2 (x2 y2): 2 2  
Enter point 3 (x3 y3): 3 3  
The points are COLLINEAR.
```