Practical File of

Programming in C

Course Code: CSEG1041

School Of Computer Science

Submitted By

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SAP ID: 590028251
Course: BCA
Semester: 1
Batch: B5
Academic Year : 2025-26

Submitted To

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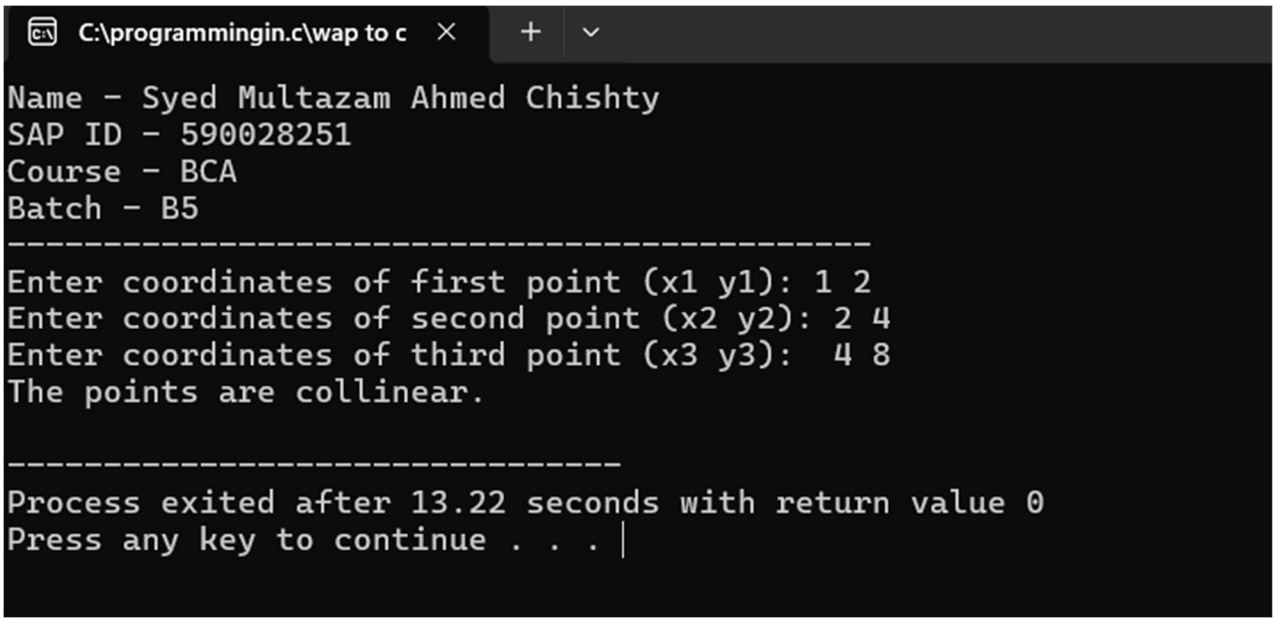
Experiment 4: Conditional Statements

3.4. WAP to check if three points (x1,y1), (x2,y2) and (x3,y3) are collinear or not.

SOURCE CODE: -

```
//3.4. WAP to check if three points (x1,y1), (x2,y2) and (x3,y3) are collinear or not.
#include <stdio.h>
int main() {
printf("Name - Syed Multazam Ahmed Chishty\nSAP ID - 590028251\nCourse -
BCA\nBatch - B5");
   printf("\n-----------------------------------------\n");
   float x1, y1, x2, y2, x3, y3, area;

   printf("Enter coordinates of first point (x1 y1): ");
   scanf("%f %f", &x1, &y1);
   printf("Enter coordinates of second point (x2 y2): ");
   scanf("%f %f", &x2, &y2);
   printf("Enter coordinates of third point (x3 y3): ");
   scanf("%f %f", &x3, &y3);

   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;
}
```

} EXECUTION: -


C:\programmingin.c\wap to c
Name - Syed Multazam Ahmed Chishty
SAP ID - 590028251
Course - BCA
Batch - B5
Enter coordinates of first point (x1 y1): 1 2
Enter coordinates of second point (x2 y2): 2 4
Enter coordinates of third point (x3 y3): 4 8
The points are collinear.
Process exited after 13.22 seconds with return value 0
Press any key to continue . . .

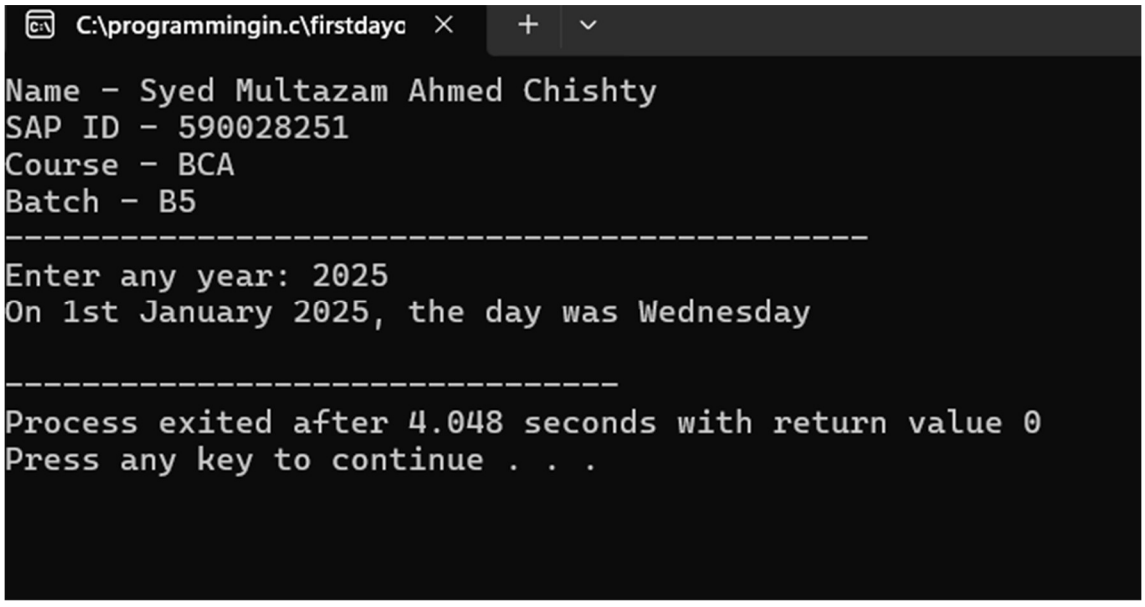
3. 5. WAP According to the gregorian calendar, it was Monday on the date 01/01/01. If Any year is input through the keyboard write a program to find out what is the day on 1st January of this year.

SOURCE CODE: -

```
/* 3. WAP According to the gregorian calendar, it was Monday on the date 01/01/01. If Any year is input through the keyboard write a program to find out what is the day on 1st January of this year. */

#include <stdio.h>
#include <math.h>

int main()
{
   printf("Name - Syed Multazam Ahmed Chishty\nSAP ID - 590028251\nCourse - BCA\nBatch - B5");
   printf("\n-----------------------------------------\n");

   int year, i, leap, days = 0, day;
   printf("Enter any year: ");
   scanf("%d", &year);

   for(i = 1; i < year; i++) {
      if((i % 400 == 0) || (i % 4 == 0 && i % 100 != 0))
         days += 366;
      else
         days += 365;
   }
```

```
day = days % 7;

    printf("On 1st January %d, the day was ", year);

    switch(day) {
        case 0: printf("Monday\n"); break;
        case 1: printf("Tuesday\n"); break;
        case 2: printf("Wednesday\n"); break;
        case 3: printf("Thursday\n"); break;
        case 4: printf("Friday\n"); break;
        case 5: printf("Saturday\n"); break;
        case 6: printf("Sunday\n"); break;
    }

    return 0;
}
```

EXECUTION: -



3.6 WAP using ternary operator, the user should input the length and breadth of a rectangle,
 one has to find out which rectangle has the highest perimeter. The minimum number of rectangles should be three.

SOURCE CODE: -

```
 /*WAP using ternary operator, the user should input the length and breadth of a rectangle,
 one has to find out which rectangle has the highest perimeter. The minimum number of rectangles should be three.
*/

#include <stdio.h>

int main() {
        printf("Name - Syed Multazam Ahmed Chishty\nSAP ID - 590028251\nCourse - BCA\nBatch - B5");
    printf("\n-----------------------------------------\n");
    float l1, b1, l2, b2, l3, b3, p1, p2, p3, max;

    printf("Enter length and breadth of Rectangle 1: ");
    scanf("%f %f", &l1, &b1);

    printf("Enter length and breadth of Rectangle 2: ");
    scanf("%f %f", &l2, &b2);

    printf("Enter length and breadth of Rectangle 3: ");
    scanf("%f %f", &l3, &b3);

    p1 = 2 * (l1 + b1);
    p2 = 2 * (l2 + b2);
    p3 = 2 * (l3 + b3);

    max = (p1 > p2) ? ((p1 > p3) ? p1 : p3) : ((p2 > p3) ? p2 : p3);
```

```
    printf("\nPerimeter of Rectangle 1 = %.2f", p1);
    printf("\nPerimeter of Rectangle 2 = %.2f", p2);
    printf("\nPerimeter of Rectangle 3 = %.2f", p3);

    printf("\n\nThe highest perimeter is: %.2f\n", max);

    (max == p1) ? printf("Rectangle 1 has the highest perimeter.\n") :(max == p2) ?
printf("Rectangle 2 has the highest perimeter.\n") :
                printf("Rectangle 3 has the highest perimeter.\n");

    return 0;
}
```

EXECUTION: -