

CS19003 Programming and Data Structures Lab

Section 7

Week 2 Assignments

18 April 2022

1. Write a C program which takes as input the coordinates of the vertices of a triangle and does the following:
 - a. Print the area of the triangle
 - b. Print whether the triangle is acute, obtuse or right angle
 - c. Check whether the triangle is equilateral or isosceles and if so print the type
2. Write a C program to assign the students to breakout rooms based on their roll numbers. Read n Roll nos and print the assignment of each them to rooms. Use switch statement.
 - a. If the student roll no ends in 0 or 1, assign the student to ERoom
 - b. If the student roll no ends in 2 or 3, assign the student to Droom
 - c. If the student roll no ends in 4 or 5, assign the student to TRoom
 - d. If the student roll no ends in 6 or 7, assign the student to Croom
 - e. If the student roll no ends in 8 or 9, assign the student to PRoom

```
#include <stdio.h>
```

```
int main ()
```

```
{
```

```
    // Variable definitions
```

```
    printf ("Work with triangles\n");
```

```
    printf ("Enter the vertices of a triangle, v1(=x1,y1)\n");
```

```
    // Read v1
```

```
    printf ("Enter v2(=x2,y2)\n");
```

```
    -- -- --
```

```
    // Read v2.  Read v3.  Print the coordinates v1, v2, v3
```

```
    -- -- --
```

```
    // Calculate the lengths of the sides as s1, s2, s3
```

```
    -- -- --
```

```
    // calculate and print the area of the triangle
```

```
    -- -- --
```

```
    // Print whether the triangle is acute, obtuse or right angle
```

```
    -- -- --
```

```
    // Check whether the triangle is equilateral or isosceles and if so print the type
```

```
    -- -- --
```

```
}
```

Filename: Rollno_2A.c

Filename: Rollno_2B.c

```
#include <stdio.h>
int main ()
{
    int i;
    int rollno;
    for (i=0; i<10; i++)
    {
        printf ("Enter last 5 digits of Rollno\n");
        --    --    --
        --    --    --
    }
}
```