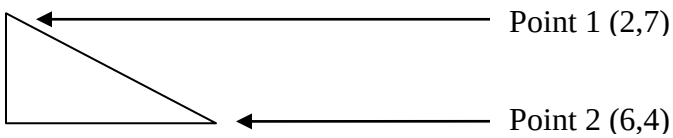
IF

1. Write a program which receives two different points, each with two coordinates: for Point 1 (x1,y1), for Point 2 (x2, y2).

   Those two points represents a right angle triangle (a triangle with 90 deg.), and the program will automatically create the third triangle's point coordinates.
   a. Check if it's indeed right angle triangle (even though it's clear ...)
   b. Show the third point of the triangle
   c. Compute the side's lengths of the triangle.
   d. Compute the perimeter of the triangle.
   e. Compute the area of the triangle.

   Example:



   Example's Answer:
   a. It's a right angle triangle
   b. Point 3: (2,4)
   c. Side's lengths: Vertical – 3, Horizontal – 4
   d. Perimeter: 12
   e. Area: 12

   Hint: use math functions (by using #include <math.h> in your source file. than y ou can use sqrt function….).

2. What will be printed in each one of the printf commands?

```
int a = 2, b = 4, c = 6;
{
        int b = 30, c = 40;
        printf("%d %d %d\n", a, b, c);
        {
                int c = a + b, d = b;
                a = 3 * a;
                b = c;
                printf("%d %d %d\n", a, b, c);
        }
        printf("%d %d %d\n", a, b, c);
}
printf("%d %d %d\n", a, b, c);
printf("%d", d);
```

3. Write a program which receives a number, and return it's absolute value.
   Example: for -19, the program will return 19.
   For 19, the program will return 19.

4. x has a value of 5. What are the possible values for x after the following if statement?
   if ((a < 10) || (a > 9) || ++x) x--;

5. Write a program which receives three numbers, and prints the biggest number as MAX, the Medium number and the smallest number as MIN.
   Example: 10 100 43
   Output: Min: 10, Med: 43, Max: 100.

6. Write a program which solve quadratic equations: $ax^2+bx+c = 0$
   Hint: use math functions (by using #include <math.h> in your source file. than y ou can use sqrt function….).

7. Write a program which receives a number (integer).
   Calculate if the number divided by 19 has remainder of 3 or 6 or 8 or 11.
   The program will run only if the number if bigger than 2010, otherwise error will be printed, and the program should terminate.
   You are asked to use - if only for checking the validity of the input.
   Think how you can check if the number divided by 19 has remainder of 3 or 6 or 8 or 11 without using if.
   Example:
   Input: 1900. Output: number is not valid, goodbye.
   Input: 2021. Output: number divided by 19 doesn't have remainder of 3 or 6 or 8 or 11
   Input: 2020. Output: number divided by 19 has a remainder of 3 or 6 or 8 or 11

8. Write a program which receives a number between 100 to 999 , and prints the different digits in the number (you need to check the validity of the number).
   For example:
   Input : 143. Output: First digit: 1 , Second Digit: 4, Third Digit:3
   Input : 1034 output: number is not between 100 to 999.

9. Write a program which receives two English letters, which can be small or Big letters ('e' , 'F' etc..). The program translates the big characters into small ones , and then prints those letters
   According to the English ABC.
   In this example , you can assume the input is valid (the user typed two English letters).

   Example:
   Input: Tk output:kt