Lab 09 – 06-11-2023

Task 1: Write a program to input two integers that is starting & ending number. Print numbers in ascending order in single line. Print numbers in descending order in single line. Print square of numbers from starting integer to ending integer in single line. Print cube of numbers from starting integer to ending integer:

Sample Run:

starting number: 3

ending number: 7

Ascending Order: 3 4 5 6 7

Descending Order: 7 6 5 4 3

Squares: 9 16 25 36 49

Cube: 27 256 125 216 343

Task 2: Write a program to input ten numbers. Find and print distance of every consecutive number:

Sample Run:

Number 1: 25

Number 2: 36

Difference: 11

Number 3: 20

Difference: 16

Number 4: 15

Difference: 5

Number 5: 30

Difference: 15

…

Task 3: Write a program to input ten numbers and for each print whether number is larger or smaller than K. K is also an input of this program:

Sample Run:

K: 25

Number 1: 36

36 is larger than 25

Number 2: 28

28 is larger than 25

Number 2: 20

20 is smaller than 25

…

Task 4: Write a program that input an integer (positive, don not check just give message) and find square root by following method. Also, find square root with built-in function and find difference of both:

1. Say number (input value) is n
2. Guess some random value (say s1) less than number n
3. Find s2 using formula: $s2 = \frac{s1+\frac{n}{s1}}{2}$
4. if $abs\ (s2 - s1\ ) < 0.00001$ s1 is your answer, otherwise
5. Assign value of s2 to s1 and repeat step 3

A working example is for integer 29:

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Enter a positive non-zero integer: 29
Square Root of 29 is 5.39
Enter a positive non-zero integer: 36
Square Root of 36 is 6.00
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