National University of Computer and Emerging Sciences

Chiniot-Faisalabad Campus

Programming Fundamentals - Lab

Week 3 – Lab 2

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FAST School of Computing

Department of Computer Science

Instructions

1. Attempt all tasks on paper (hard form). Then scan it. And share it on google classroom portal.
2. Make a PDF document with the convention "ROLLNO_ LAB#_ SECTION" and put all your source code and snapshots of its output in it.
3. Plagiarism is strictly prohibited, if you take a code snippet off the internet, mention its reference.
4. Time management is very important. You will be given extra 05 minutes for Submission.
5. 50% deduction for Late/Wrong Submission.
6. Each task caries different weightage according to its complexity.
7. Do not discuss solutions with one another. Copying the solution from any source can lead to ZERO marks.

Lab Tasks

Task 1 **Marks 1**

Create a flowchart and pseudocode/algorithm to print 'Welcome to Fast'.

Task 2 **Marks 2**

Create a flowchart and pseudocode/algorithm to check the smaller number.
Hint: input **two and three** numbers and compare them.

Task 3 **Marks 2**

Create a flowchart and pseudocode/algorithm to add any number 3 times and print its sum.
Hint: Use iterations (loops), input a number, stores its sum and at the end display its sum

Task 4 **Marks 2**

Create a flowchart and pseudo/algorithm to check if the number is positive, negative or zero.
Hint: If number is less than zero – negative. If number is greater than zero – positive. Otherwise - zero.
e.g., -88 is negative number.

Task 5 — Marks 2

Create a flowchart and pseudocode/algorithm to input a number and calculate its factorial.

Hint: the product of an integer and all the integers below it .
e.g., factorial of 5 is – 5*4*3*2*1 - 120

Task 6 — Marks 3

Create a flowchart and pseudocode/algorithm to pass Programming Fundamentals - Lab.
Marks Distribution:

- Lab- 40 Marks
- Final Exam- 40 Marks
- Project- 15 Marks
- Class Participation- 05 Marks
- Total- 100 Marks

Apply the grading scheme on total marks and show the relevant grades.
<30 - F
30 to 39 - D
40 to 44 - D+
45 to 49 - C-
50 to 54 - C
55 to 59 - C+
60 to 64 - B-
65 to 69 - B
70 to 74 - B+
75 to 79 - A-
80 to 85 - A
>85 - A+

Task 7 — Marks 3

Create a flowchart and pseudocode/algorithm to print the sum of all odd numbers between 11 to 30.

Hint: 11 + 13+ 15+ 17+ 19+ 21+ 23+ 25+ 27+ 29. Use iterations (loop).

Task 8 — Marks 3

Design a flowchart and write algorithm/pseudocode for an activity that asks a user for his/her age. If the age is equal or above 18, ask if they have a driver's license. If they do, print "You can drive." If not, print "You are eligible but need a license." If the age is below 18, print "You are not eligible to drive."

Task 9	Marks 3

Create flowchart and write algorithm/pseudocode for an activity that takes a user's input (1-12) and displays the corresponding month of the year. If user enters any other number, then display message “Invalid Entry”

1 – January
2 – February
3 – March
4 – April
5 – May
6 – June
7 – July
8 – August
9 – September
10 – October
11 – November
12 – December

Task 10	Marks 4

Create a flowchart and write algorithm/pseudocode that generates the tables from 2 to 5
e.g., (no need of user input)
Sample Output:

Table of 2
2
4
6
8
10
12
14
16
18
20

Table of 3
3
6
9
12
15
18
21
24
27

30

Table of 4
4
8
12
16
20
24
28
32
36
40

Table of 5
5
10
15
20
25
30
35
40
45
50

"Coding like poetry – should be short and concise"
Cheers 😊