

Programming Fundamentals Section-A+B

Course Instructor: Rizwan ul Haq

Date of issue:

Saturday, November 17, 2018

Date of submission:

Wednesday, November 21, 2018

Fall 2018



Department of Computer Science

FAST – National University of Computer & Emerging Sciences

Chiniot-Faisalabad Campus

1. Write a program to print the Fibonacci series up to a number given by the user to the function.
2. Write a program that prints the table of a number (entered by user) in main (). Create a function to multiply two numbers.
Hint: use loop
3. Write a function to check whether the number passed to it is a Palindrome or not.
Hint: Palindrome is a number that reads the same backwards as forwards e.g. 12321
4. Write a function that checks whether the two strings passed to it are anagram of each other or not.
5. Write a function that swaps two numbers passed to it, without using a third variable. Display swapped values in main.
6. Write functions to convert a decimal number to binary and hexa-decimal. Use function overloading
7. Write a program to calculate the wages of employees by passing hours and wage per hour of an employee. If user doesn't enter wage per hour price the function should use default value. Repeat the process until user wants to end.
8. Write a function to check whether the number passed to it is a prime number or not.
9. Perfect number is a positive integer that is equal to the sum of its proper divisors. The smallest perfect number is 6, which is the sum of 1, 2, and 3.
Write a function which takes a number and print perfect numbers from 1 to that number.
e.g. if user enters 1000
output → 6, 28, 496.
10. Write a void function that reverses the string passed to it. Print reversed string in main.
Note: don't print it in reverse order. Make it reversed.
11. Write a program to take as many inputs from the user as he wants, and find the average of those numbers and display in main (). Use static variable.
Your program should contain three functions.
Count() → updating the value of count
Add() → Adding the numbers together
average → Calculating average

12. Write a function that makes such a pattern like right angle triangle with number increased by 1 up to the number passed to the function.
e.g. input= 10
output:
1
2 3
4 5 6
7 8 9 10
13. Write a program to find the area of a triangle, rectangle, and surface area of a sphere. Use function overloading.
14. Write a program to define overloaded functions add(). Invoke the overloaded function through another overloaded function.
15. Write a program that converts from 24-hour notation to 12-hour notation. For example, it should convert 14:25 to 2:25 PM. The input is given as two integers. There should be at least three functions, one for input, one to do the conversion, and one for output. Record the AM/PM information as a value of type char, 'A' for AM and 'P' for PM. Thus, the function for doing the conversions will have a call-by-reference formal parameter of type char to record whether it is AM or PM. (The function will have other parameters as well.) Include a loop that lets the user repeat this computation for new input values again and again until the user says he or she wants to end the program.
16. You have invented a vending machine capable of deep frying twinkies. Write a program to simulate the vending machine. It costs \$3.50 to buy a deep-fried twinkie, and the machine only takes coins in denominations of a dollar, quarter, dime, or nickel. Write code to simulate a person putting money into the vending machine by repeatedly prompting the user for the next coin to be inserted. Output the total entered so far when each coin is inserted. When \$3.50 or more is added, the program should output "Enjoy your deep-fried twinkie" along with any change that should be returned.

Guidelines

- A single violation of guideline will lead to Zero mark in your assignment. You will have maximum marks if you have done the entire task.

- Only ".doc (or) .docx" file should be uploaded on SLATE, Assignment would not be accepted via email, Facebook or USB flash drive etc.
- Do not zip your assignment it should be uploaded as individual file in following format. "RollNo_Assignment_No.doc".
- Paste all the required outputs in the single .doc file.
- Deadlines should be kept in mind no extension in assignment dates
- This is an individual assignment. **PLAGARISM IS NOT ACCEPTABLE!**
- Follow the instructions as it is, otherwise your assignment would not be accepted at all.