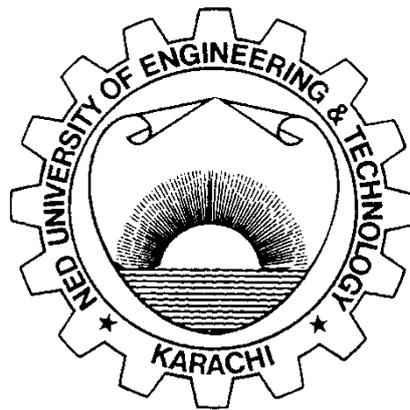# Practical Workbook
CS-115
Computer Programming

Name   _____

Year   _____

Batch   _____

Roll No   _____

Department: _____

Department of Computer & Information Systems Engineering
NED University of Engineering & Technology

Practical Workbook
CS-115
Computer Programming

Prepared by:

Mr. Kashif Asrar
Ms. Ibshar Ishrat

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Department of Computer & Information Systems Engineering
NED University of Engineering & Technology

INTRODUCTION

This workbook for CS-115 Computer Programming introduces basic as well as intermediate level concepts of programming using Python language. Each lab session begins with a brief theory of the topic. Many details have not been incorporated as the same is to be covered in Theory classes. The Exercise section follows this section.

The Course Profile of CS-115 Computer Programming lays down the following Course Learning Outcome:

"Practice computer programming using constructs of a high level language. (C3, PLO-5)"

All lab sessions of this workbook have been designed to assist the achievement of the above CLO. A rubric to evaluate student's performance has been provided at the end of the workbook.

The Workbook has been arranged as fourteen labs starting with a practical on the Introduction to programming environment and fundamentals of programming language. Next few lab sessions deal with familiarization with different data types and operations supported by those data types. Single stepping; an efficient debugging and error detection technique is discussed in Lab session 4. Next lab session covers decision making in programming and its application. Lab session 6 and 7 introduce the concepts of loops with different examples to use them in programming.

Lab session 8 introduces a new tool 'PyCharm' for execution of python projects and scripts. Function declaration and definition concepts and examples are discussed in lab sessions 9, 10 and 11. The next lab session deals with the advanced data type in python named 'tuples' for which Project Jupyter- (a web based application to code scripts and run projects) would be used.

In the final lab operations on files like reading and writing have been discussed. These operations enable the users to handle not only large amount of data, but also data of different types (integers, characters etc.) and to do so efficiently.

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