

National University of Computer and Emerging Sciences, Lahore Campus



Course	COAL - LAB
Name:	BS(Computer Science)
Program:	45 minutes
Duration:	8-Dec-23
Paper Date:	BCS-3H
Section:	Quiz-3
Exam:	

Course Code:	EL2003
Semester:	Fall 2023
Total Marks:	30
Weight:	5%
Pages:	1

Student : Name: _____ Roll No. _____ Section: _____

Instruction/Notes:

1. Understanding the question paper is also part of the exam, so do not ask for any clarification.
2. Talking/Discussion is not allowed. It is your responsibility to protect your code and save it from being copied. If you don't protect it all matching codes are considered copy/cheating cases.
3. Failure to observe above mentioned instructions will lead to a negative mark on the Exam.

Question 1: Interactive Speed-Controlled Game

Develop an assembly program that integrates keyboard interrupts (interrupt 9h) along with timer interrupts (interrupt 8h), to create an interactive speed-controlled game. The program should encompass the following features:

1. **Character Movement:** Present a character on the screen that continuously moves in a specified direction, initially from left to right.
2. **User Control:** Enable the user to influence the direction of the character using specific keys: "A" for left, "D" for right, "S" for down, and "W" for up.
3. **Timer Interaction:** Implement a timer that updates the character's position every second. If the user doesn't press any keys within a 5-second interval, increase the character's speed by 3 tick counts.
4. **Game Over Condition:** Set a game-over condition when the tick count reaches 3 or 0. Display a relevant message and terminate the program.
5. **Termination:** Provide a key (e.g., "ESC") for the user to terminate the program.