	COLLEGE OF COMPUTING AND INFORMATION SCIENCES		
	Final Assessment of Lab Exam (Fall 2020 Semester)		
Class Id	101539	**Course Title**	Computer Architecture
Program	BSCS	**Campus / Shift**	North campus morning
Date	23-11-2020	**Total Marks**	20
Duration	03 hours	**Faculty Name**	Abuuzar Zafar
Student Id	63758	**Student Name**	Ali Salman Hassan
Code	B		

Instructions:

- Fill out your Student ID and Student Name in above header.
- Do not remove or change any part question paper.
- Write down your answers with title "Answer for Question# 00".
- Handwritten text or image should be on A4 size page with clear visibility of contents.
- In case of CHEATING, COPIED material or any unfair means would result in negative marking or ZERO.
- **Caution:** Duration to perform Final Assessment is **02 hours only and 01 hour** is given to cater all kinds of odds in submission of Answer-sheet. **Therefore, if you failed to upload answer sheet on LMS (in PDF format) within 3 hours limit, you would be considered as ABSENT/FAILED.**

Q1) Set the servo motor angle through IR remote. Take input from user through IR remote and set the servo motor angle between 0 to 180 degree. Also show the servo current angle position on 16x2 LCD.

Paste your Code and screenshot here

Answer for Question# 01

CODE:

```
#include <IRremote.h>

#include <LiquidCrystal.h>

#include <Servo.h>

const int RECV_PIN = 6;

int angle = 0;
Servo myservo;

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

#define buttonpower 255
#define button0 12495
```

```
#define button1 2295
#define button2 34935
#define button3 18615
#define button4 10455
#define button5 43095
#define button6 26775
#define button7 6375
#define button8 39015
#define button9 22695

IRrecv irrecv(RECV_PIN);
decode_results results;

void setup(){

  lcd.begin(16,2);

  irrecv.enableIRIn();

  myservo.attach(9);

  myservo.write(0);

}

void loop(){

  if (irrecv.decode(&results)){

    unsigned int value = results.value;
    switch(value){

      case buttonpower:
      lcd.print("Ali Salman");
      lcd.setCursor(0,1);
      lcd.print("63758");
      break;


      case button0:
      myservo.write(angle=0);
      lcd.print("Angle: ");
      lcd.print(angle);
      break;


      case button1:
      myservo.write(angle=20);
      lcd.print("Angle: ");
      lcd.print(angle);
      break;
```

```
case button2:
myservo.write(angle=40);
lcd.print("Angle: ");
lcd.print(angle);
break;


case button3:
myservo.write(angle=60);
lcd.print("Angle: ");
lcd.print(angle);
break;


case button4:
myservo.write(angle=80);
lcd.print("Angle: ");
lcd.print(angle);
break;


case button5:
myservo.write(angle=100);
lcd.print("Angle: ");
lcd.print(angle);
break;


case button6:
myservo.write(angle=120);
lcd.print("Angle: ");
lcd.print(angle);
break;


case button7:
myservo.write(angle=140);
lcd.print("Angle: ");
lcd.print(angle);
break;


case button8:
myservo.write(angle=160);
lcd.print("Angle: ");
lcd.print(angle);
break;


case button9:
myservo.write(angle=180);
lcd.print("Angle: ");
lcd.print(angle);
```

```
      break;

    }

    delay(1000);
    lcd.clear();
    irrecv.resume();

  }

}
```

SCREENSHOT: