Gebze Technical University

Department of Computer Engineering

CSE 107 - Introduction to Computer Science Lab.

Date: 2 Dec 2022

Content:

1. Recursive function.

2. Serial communication between Arduino and serial monitor.

1. Recursive Functions:

- **c program to add 10 numbers starting from 1**

```c
#include <stdio.h>
 int Sum(int);
 int main() {
   int number = 10;
   int result = Sum(number);
   printf("result  = %d\n", result );
   return 0;
}
 int Sum(int x) {
   if (x == 1)
      return 1;
   return x + Sum(x - 1);
}
```

- **c program to find 5 factorial**

```c
#include <stdio.h>
int faktoriel(int s){
   if(s == 0 || s == 1){
      return 1;
   }
   return s * faktoriyel(s - 1);
}
int main(){
   printf("5!= %d", faktoriyel(5));
}
```

Arduino IDE Kurulumu

Right click → Manage → Device manager → Connect Arduino (it will show on other devices when connected)

CH340 Driver

arduino.cc → Software → Downloads

Tools → Arduino/Genuino Uno

Tools→ Port → (Arduino/Genuino Uno)   (established)

TASK:

1- According to the limits entered by the user; Write the c code that gives the sum of the numbers divided by 3 using a recursive function.

Start: 7

Finish: 20

Output: 9+12+….+18=54

2- "Hello World!" at 1-second intervals using Arduino Write the code that prints it. While typing, the led should be on and off. This process should accelerate gradually.