CSC 3210 Computer Organization and Programming
Assignment #1
Spring 2020
due Friday, February 07th, 11:59 pm

Learning Objectives: 1) Use Slack, GitHub, Word processor, and YouTube applications to develop your soft skills— verbal and written communication, cooperation, decisions making, tasks identifications, planning, and scheduling, conflict resolution. **2)** Learn how to setup your Pi to connect with your desktop or laptop monitor; **3)** Write, assemble, link, and execute a basic sequential ARM assembly program, **4)** Learn how to debug ARM assembly programs using GDB debugger.

Important Note: (read this carefully please)

As you will find out, group work isn't always easy—team members sometimes cannot prepare for or attend group sessions because of other responsibilities, and conflicts often result from differing skill levels and work ethics. When teams work and communicate well, however, the benefits more than compensate for the difficulties. One way to improve the chances that a team will work well is to agree beforehand on what everyone on the team expects from everyone else. Reaching this understanding is the goal of the assignment.

Team Policies:

- Rotate the coordinator role for each assignment.
- You are all expected to cooperate.
- Do the required individual preparation.
- Agree on a common meeting time and what each member should have done before the meeting (readings, taking the first cut at some or all of the assigned work, etc.)
- A team coordinator:
  - interfaces between the instructor and the team.
  - turning in the documents with the names on it of every team member who participated actively in completing it. **Only the team coordinator is responsible for submitting the project assignment.**
  - review returned assignments and make sure everyone understands why points were lost and how to correct errors.
  - bringing team questions to the instructor coordinator
  - receiving and returning the Raspberry PI
  - checks with other team members before the meeting to remind them of when they will meet and what they are supposed to do.
  - **with the help of the team members, identifying, assigning, and scheduling tasks to the team members**
  - monitoring and reporting the progress of the assigned tasks
  - coordinator team members
- Consult with your instructor if a **conflict** arises that can't be worked through by the team.
  - Dealing with **non-cooperative team members**: If a team member refuses to cooperate on an assignment, her/ his name **should be included in the tasks table with "she/he did not do or partially did the assigned task"** on the note column and as a team you should assign 0%, 25%, 50%,75%, 100% grade based on her/his contribution for the given assignment.
    - **No show (0%)**: No participation at all;
    - **Unsatisfactory (25%)**: Consistently failed to show up or complete assignments, unprepared;
    - **Marginal (50%):** Sometimes failed to show up or complete assignments, rarely prepared.;
    - **Very good (75%)**: Usually did what he/she was supposed to do, acceptably prepared and cooperative;
    - **Excellent (100%)**: Consistently did what he/she was supposed to do, very well prepared and cooperative.
  - If the problem persists, the team should meet with the instructor so that the problem can be resolved, if possible, otherwise, grade of zeroes will be assigned for the remaining assignments.

TASKS:

- **Find your team at iCollege under the Assessments menu, Discussions, Class Project, Groups Formation.**
- Meet as a team.
- Choose (elect) a team coordinator.
  - New team coordinator must send a conformation email to the GTA, "Kexin Ding" <kding3@student.gsu.edu>.
  - The team coordinator should discuss with the team members when and where to meet to discuss the following tasks (1 to 6).
  - The team coordinator role will be rotated for each assignment.
- The team coordinator should contact the team members and discuss when and where to meet to discuss the following tasks.
- The coordinator role will be rotated for each assignment.
- Each team member must have received a Raspberry PI during week2 lab hours.

TASK 1 (18p) Planning and Scheduling:

- (4p) Choose a name for the team
- (14p) Create a table and have every member's name, assigned task or tasks, etc. **Ex**.:

Work Breakdown Structure

Assignee Name	Email	Task	Duration (hours)	Dependency	Due date	Note
Awad Mussa	amussa@gsu.edu	Technical writing (getting the report ready) as described in the assignment	5 hours	Slack, GitHub, and the video (these have to be done first)	02/22/18	Must be ready 30 hours before the due date
James Siemen (**coordinator**)	exmple@gsu.edu	Creating the slack account as described in the assignment	2 hours	none	02/19/18	Please send everybody the link and ask them to login and write their member introduction: name, interest, expectation from this project
Michael Jorden	exmple@gsu.edu	Did not do the assigned task	Did not do the assigned task	Did not do the assigned task	Did not do the assigned task	Mike did it. 0% grade.
Alex Brian	exmple@gsu.edu	Partial Contribution	0.30 minutes	none	02/20/18	James did the rest. 25% grade.

TASK 2: (25p) Communication and Collaboration:

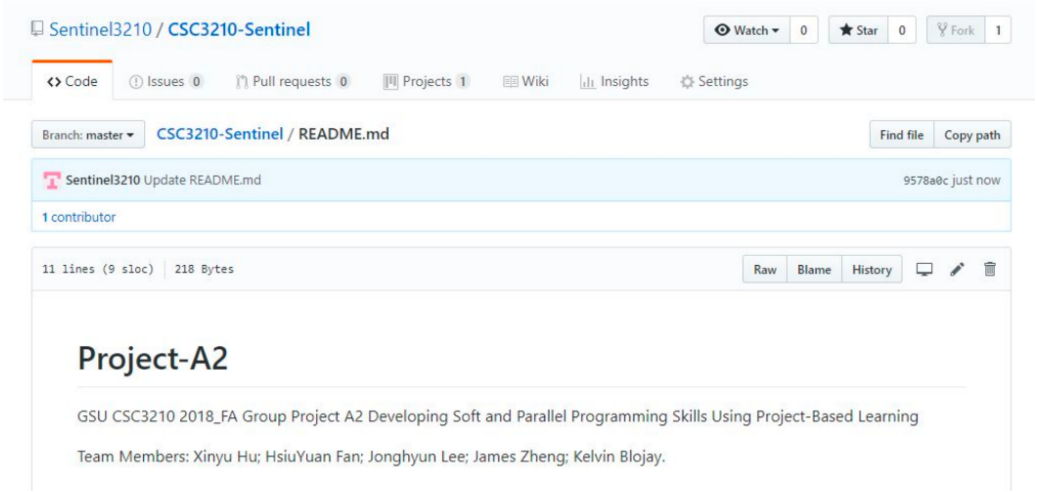
- **Slack:**
  - (3p) Create Slack account and name it using the group name chosen above. Basic introduction to Slack can be found here:
    - https://get.slack.help/hc/en-us/articles/115004056967
    - https://get.slack.help/hc/en---us/articles/218080037-Getting-started-for-new-members
  - (3p) Send the invitation to the team members. Every team member must write a message with: member introduction: name, interest, assigned task/s, expectation, from this project
  - (3p) Take screenshot of the main screen (shows members messages "member introduction: name, interest, expectation from this project") in include it in your report.

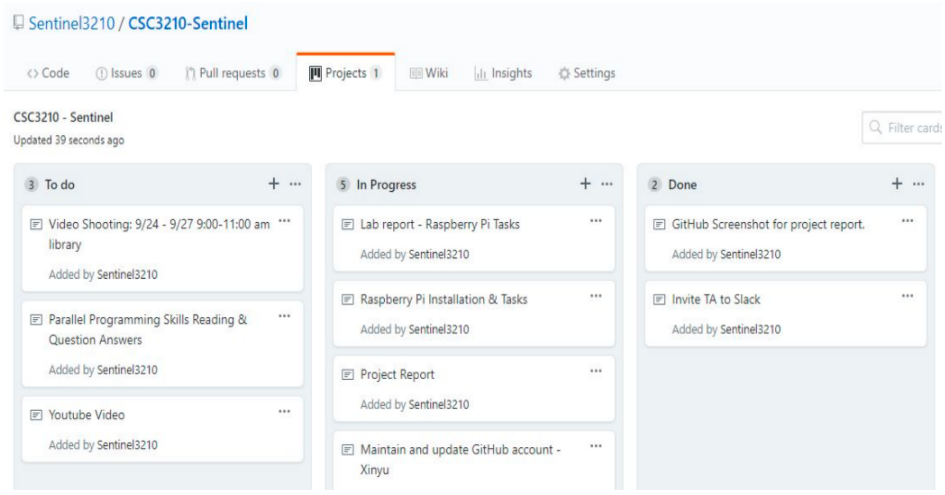
- (1p) Include the link to this slack with your report.

- **GitHub:**
  - (5p) Create GitHub account and name it using the group name chosen before.
    - Basic introduction to GitHub: https://guides.github.com/activities/hello-world/#intro
    - How to create a project board: https://help.github.com/en/articles/creating-a-project-board
    - How to add members to your team project: https://help.github.com/en/enterprise/2.16/user/articles/adding-people-to-your-organization

    Note: All project documents: doc, pdf, and code related files must be kept at GitHub so that all team members can have access to them.
  - (5p) Write the project title and the team members' names in Readme file under the Code Tab. Submit a screen shoot of your readme page.
  - (5p) Create a new project using the Project Tab and name it CSC3210- group name. Use the: To do; In progress; and Done columns. Under these columns, create your own cards and have the assigned tasks and their status (in progress and done) written there as a list. Submit a screen shoot of your project page.

A good sample example:





TASK 3: (37p) **Learning Teamwork Basics**

- Read the TEAMWORK BASICS document and answer the following <u>as a group</u>:
  - **(5p)** What to do to get the task accomplished *and* the team members' satisfaction high?
  - **(18p)** Answer all the questions in the Work Norms, Facilitator Norms, Communication Norms using your own words and your own context.
  - **(4p)** As a team, select two cases out of the four mentioned in Handling Difficult Behavior. (use your own words and your own context)
  - **(4p)** When making decisions, If the team is having trouble reaching consensus, what should you do? (use your own words and your own context)
  - **(3p)** What should you do if person may reach a decision more quickly than others and pressure people to move on before it is a good idea to do so?
  - **(3p)** What happens if most people on the team want to get an "A" on the assignment, but another person decides that a "B" will be acceptable?

<u>Note</u>: TEAMWORK BASICS document can be found in iCollege, week2, Project_A1 folder.

TASK 4: (40p) **Raspberry PI Installation and ARM Assembly Programming:**

a) (10p) **PI:** You should have received your PI in the lab (week2).

- Create a repository in GitHub for your code (ARM programs), then connect your Raspberry Pi to the repository at the GitHub using Git before you start ARM Assembly Programming in subsection b. See details in pdf file "Connecting to GitHub with SSH".

b) (30p) **ARM Assembly Programming**

These instructions assume that you have a Raspberry Pi up and running.

- See the Tasks description in ARM Assembly Programming (available at iCollege, Week2, Project: Assigenmnt1 folder, ARM_Assembly_Programming_A1.pdf)
  - You need to submit a detailed lab report to describe:
    - **(30p)** What you have done and what you have observed, including screenshots and code snippets. Simply attaching screenshots and code snippets without any explanation will not receive credits.

TASK 5 **(19p) Report (**written communication**):**

- (5p) A title page (first page) has:

- (2p) project title: **Developing Soft and Parallel Programming Skills Using Project-Based Learning**,
- (3p) semester (Spring-2020), group name, group members' names,

- (6p) Text format should be:
  - (3p) Font size 12, Font type is times new roman, single space between lines.
  - (1p) All paragraphs must Text Justified.
  - (2p) Pages are numbered
- (3p) Report sections:
  - Planning and Scheduling
  - Teamwork basics
  - Raspberry PI Installation and ARM Assembly Programming
  - Appendix: have the links (slack, GitHub and video links and screenshot) here
- (2p) All text must be produced on a word processor and convert it to PDF format.
- (3p) You (the team coordinator for this assignment) will also print out a copy of the report and submit it in person to the instructor during the office hours: (the one after the submission due date)

  Note:

  You will submit the document electronically through iCollege as a PDF file:
  - The file you submit should be named coordinatorName_Groupname.pdf
  - **Only the team coordinator should submit the report**
    - Individuals will only get points if they are in a group that has been submitted.

TASK 6 (29p) Presentation (verbal communication):

- **Video**:
  - **Rules**: You will lose a lot of points if you ignore the following rules
    - The video must be shot in the same place and the video must include all members in a group discussion setting.
    - Every team member must participate in this video.
    - Use diagrams in your presentation (a picture is worth a thousand words)
    - This video must be 3-8 minutes.
  - (14p) What to do: (**Every team member must participate in this video**)
    - (2p) Introduce yourself.
    - (2p) Identify your task for this assignment.
    - (3p) What have you learned from this assignment (2-3 key things)?
    - (4p) How will you apply what you learned in your next assignment, academic life (future classes), and in the future (job)?
    - (3p) What was the best/most challenging/worst experience you encountered?
  - (15p) How to do it:
    - (5p) Use your smart phone camera. Make sure the voice and picture are clear.
      - **Note: The video must include all members in a group discussion setting.**
    - (5p) Create a channel at YouTube and name it as your group name
      - Once ready, upload the video to your channel.

        Note:

        Basic introduction to How to **Make A YouTube Channel** and **Upload a video** can be found here: https://www.youtube.com/watch?v=b38ef8n1p4U
      - Use this channel for uploading future videos.
    - (4p) This video must be 3-8 minutes. You will lose points if it is more than 8m.
    - (1p) Include the link to this channel with your report.