Developing Soft and Parallel Programming Skills using Project-Based Learning

Spring 2020

The Commuters
Alaya Shack, Miguel Romo, Arteen Ghafourikia, Andre Nguyenphuc, Joan Galicia

Planning and Scheduling:

Assignee Name	Email	Task	Duration (hours)	Dependecy	Due Date	Note
Alaya Shack	ashack1@student.gsu.edu	Write the answer for Teamwork Basics Document				
Miguel Romo	mromo1@student.gsu.edu	Planning and schdueling as described in the assignment				
Arteen Ghafourikia (coordina	aghafourikia1@student.gsu.edu	Connect Rasberry Pi to Github and weite assembly code				
Joan Galicia	Jgalicia2@student.gsu.edu	Creating the slack account as described in the assignment				
Andrew Nguyenphuc	anguyenphuc1@student.gsu.edu	Techincal writing (getting the report ready) as descrited in the assignment				

Teamwork Basics: Alaya Shack

What to do to get the task accomplished and the team members' satisfaction high?

- In order to get the task accomplished and the team members' satisfaction high, the members of the group should become acquainted with each other and everyone's strengths, ground rules should be set, a facilitator should be used, lines of communication should be kept open, and we should know how to avoid or solve common problems associated with collaborative work.

- Work Norms Questions
  - How will work be distributed?
    - Work will be distributed evenly amongst group members. Each task will have a primary person assigned and a secondary person, in case a person is not able to follow through with their commitment and to help with reviewing and clarifying questions. We will try to assign work based on everyone's strength. Also, we will ensure that the work is rotated so that everyone will have a chance to do different types of tasks.
  - Who will set deadlines?
    - Each member will state their idea of a reasonable due date for each task, and we will discuss and vote on a particular date.
  - What happens if someone doesn't follow through on his/her commitment?
    - If someone doesn't follow through on his/her commitment, we will discuss why they were not able to complete their commitment. Then, the secondary person on the assigned task and the remaining group members will work to complete the task. The person who does not follow through on their commitment will receive a 0% for their effort.
  - How will work be reviewed?
    - Each task will first be reviewed by the secondary person. Then, as a group, we will review the tasks at our meetings.

    - What happens if people have different work habits?
        - As long as each member gets their task accomplished by the assigned due date, the various work habits will have little to no significance. However, if a person likes to get things done early hinders or has a negative impact on the group, we will discuss alternatives or solutions to the problem. If a person that likes to procrastinate hinders the group, we will discuss how their behavior negatively impacts the group and discuss solutions to the problem.

- Facilitator Norms Questions
    - Will you use a facilitator?
        - We will use a facilitator.
    - How will the facilitator be chosen?
        - The facilitator will be chosen based on who volunteers for the position. If no one volunteers, the facilitator will be chosen through several rounds of rock paper scissors. Once a person has held the facilitator position, they will not be eligible for rock paper scissors or to volunteer.
    - Will you rotate the position?
        - The facilitator position will be rotated.
    - What are the responsibilities of the facilitator?
        - The facilitator is responsible for initiating the discussion, setting the agenda, keeping the team focus, making sure the team is progressing, ensuring every member is engaged, solving/ mollifying problems, summarizing the teams goals and decisions, and establishing a consensus among the group. .

- Communication Norms Questions
    - When should communication take place and through what medium?
        - Communication will primarily take place through text in our groupme, and we will communicate at our meetings, which will be held at least once a week. If more meetings are needed, we will add them to our schedule. We will communicate when we have made updates to tasks or ammended tasks and for clarity on a specific task or issue.
- Handling Difficult Behavior
    - Too Quiet
    - Argues

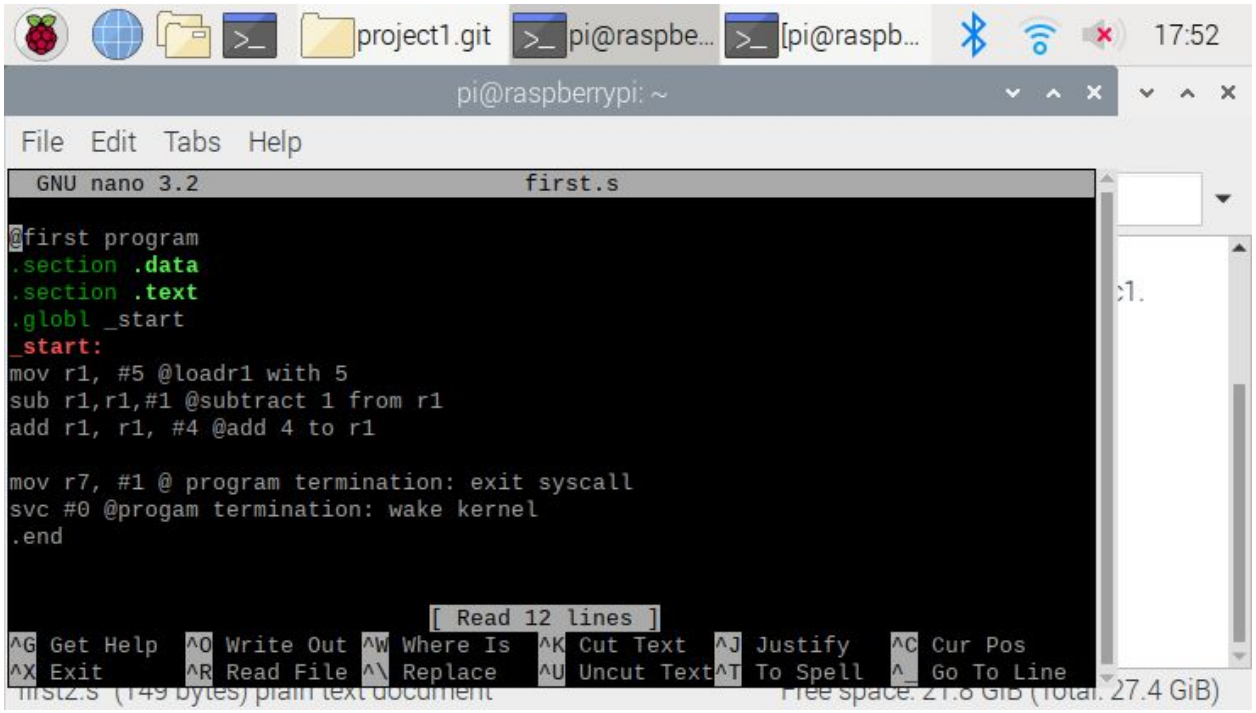
How the Person Acts	Description	What to Do
Too Quiet	This person does not actively engage in the group. They are mostly silent through	Make this member feel comfortable, and let them know that the group values their input.

	discussions. They may be timid or unsure of themselves.	Try to get them to come out of their shell by asking for their input on a specific idea or asking them a question about themselves.
Argues	This person likes to argue for fun, and they are strongly opinionated . They find somebody to argue with every opportunity the group is together. They are constantly taking up the group's time with their arguments	If the person's feedback is constructive, then we should use their feedback to ensure that we are completing quality work. However, if their feedback is negative, a discussion should be held with the facilitator so that the person will understand that their behavior is negatively impacting the group. The facilitator should let the person know that we appreciate their participation, but that their argumentative nature is not contributing to the success of the group.

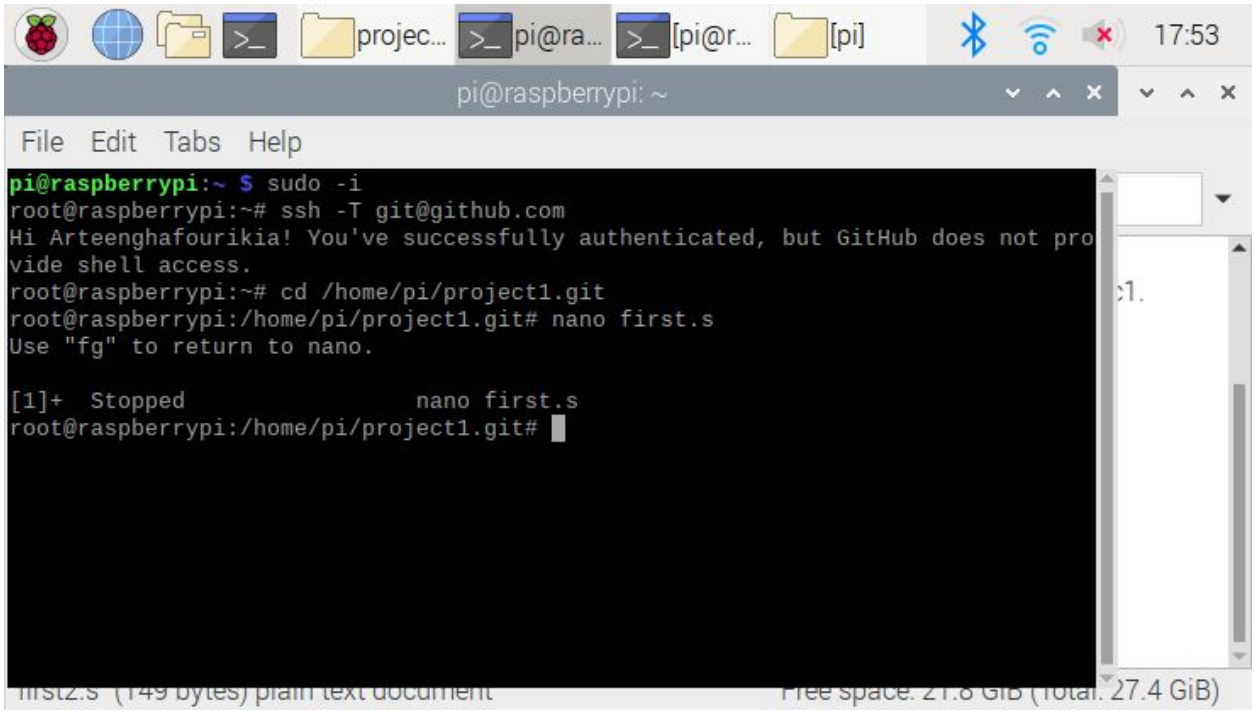
- When making decisions, If the team is having trouble reaching consensus, what should you do?(use your own words and your own context)
    - If the team is having trouble reaching consensus, we will first consider the importance of the decision. If the decision is not significant, we will listen to each other's viewpoints and make the best decision for the overall group. If the decision is significant, we will use multivoting. The process of multivoting will consist of gathering all the ideas that we have generated. Then, we will have each member choose their top four ideas. Once the top four ideas are selected by each member, we will see which ideas were voted for the most. Next, we will identify the similarities, differences, positive aspects, and negative aspects between the ideas that were voted for the most. Now, each member will vote for their top two choices, and we will review the votes to see which choice had the most support.

- What should you do if a person may reach a decision more quickly than others and pressure people to move on before it is a good idea to do so?
    - If a person reaches a decision more quickly than others and pressures people to move on, ideally, the facilitator would enlist everyone's viewpoint on the decision and check to see if there is a consensus among the group. Also, the facilitator will make sure that the group has completed prior tasks that are needed before advancing to another task.
- 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?
    - If most people on the team want to get an "A", but another person decides that a "B" will be acceptable, each member will share their viewpoints on the grade that they would like to receive and why they would like to receive that particular grade. Then, if the "B" team member outlook does not change, then we will continue to communicate about the issue if their behavior is a hindrance to the group, or the remaining members will find other solutions to the issue such as assigning simpler tasks to that group member or work together to raise that group member's quality of work.

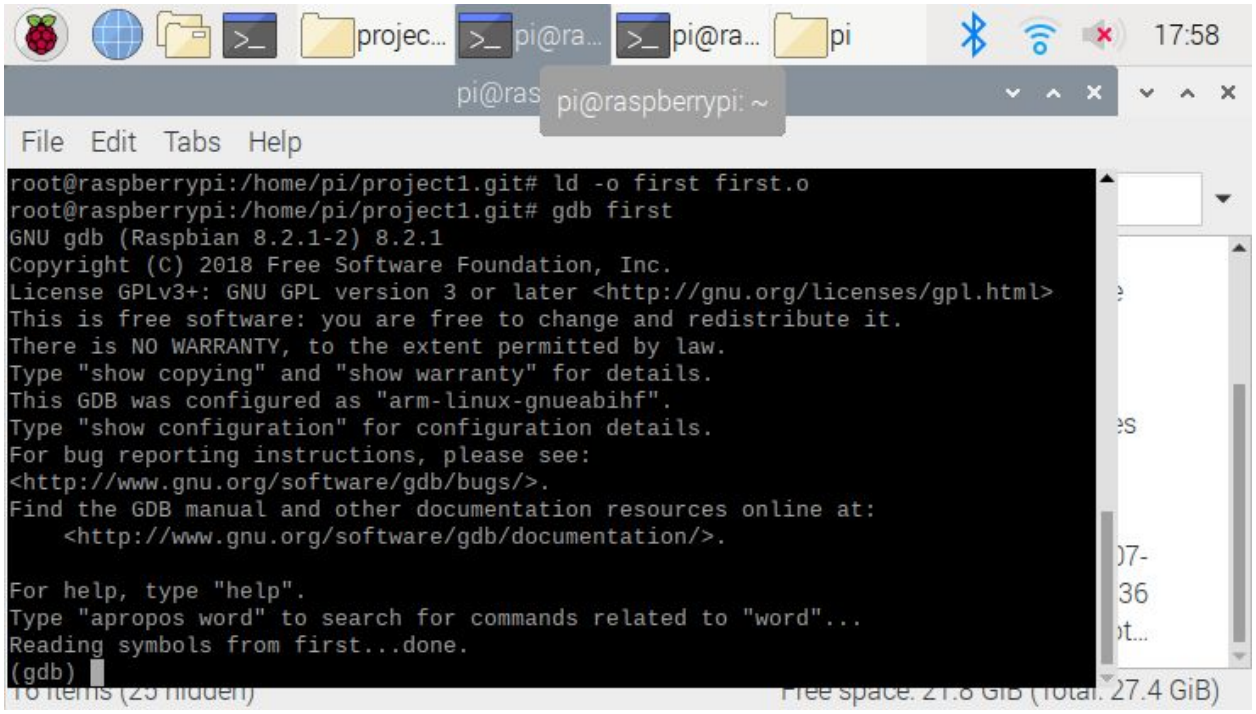
Raspberry PI Installation and ARM Assembly Programming: Arteen Ghafourikia



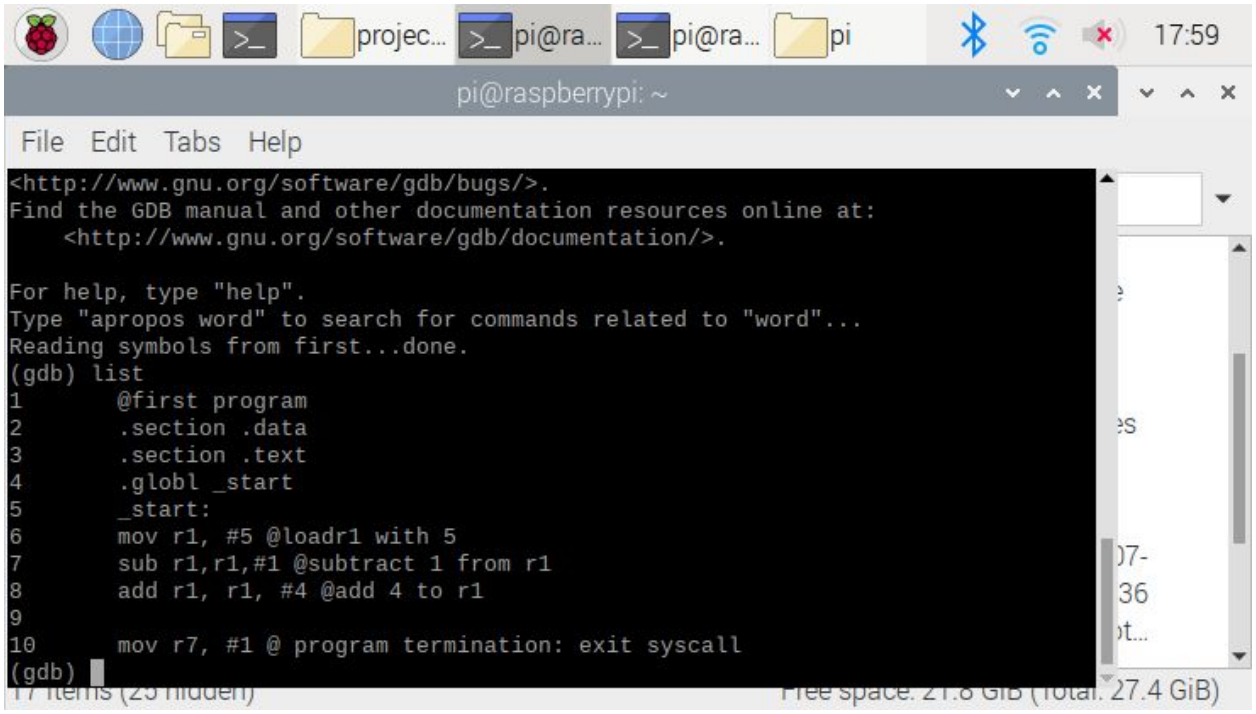
This is the code for the first.s program.



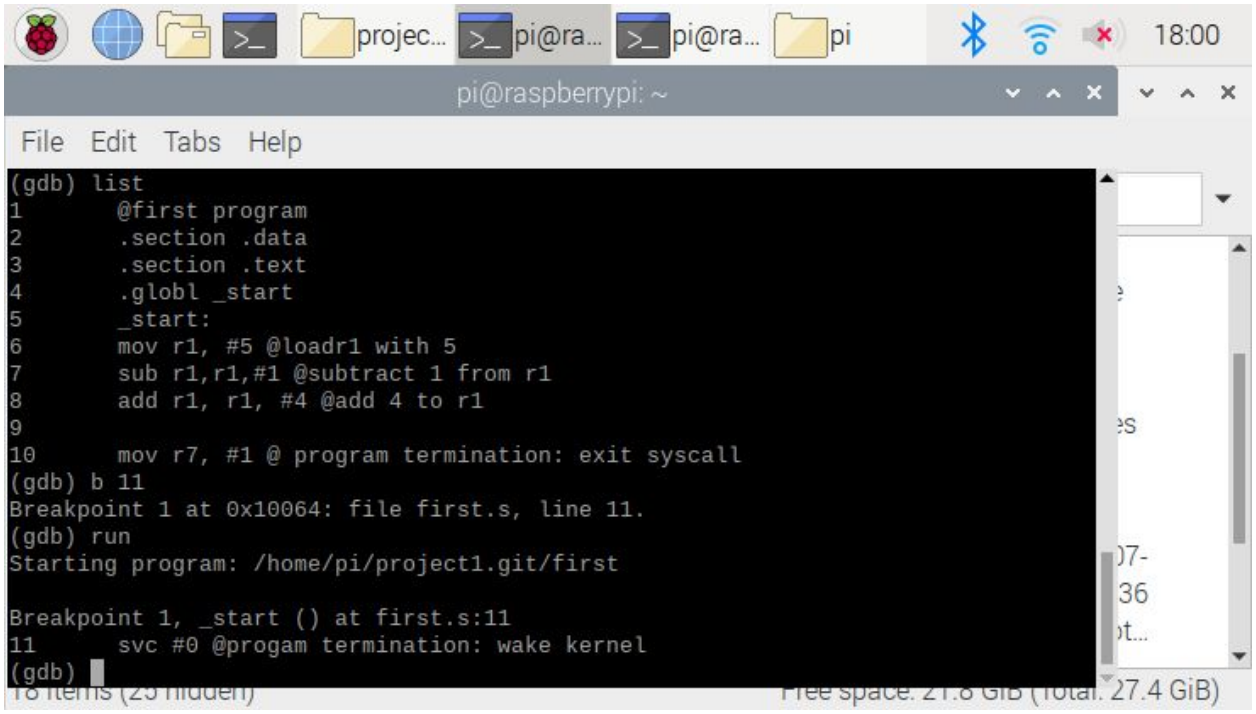
Over here I connected to the GitHub with SSH.



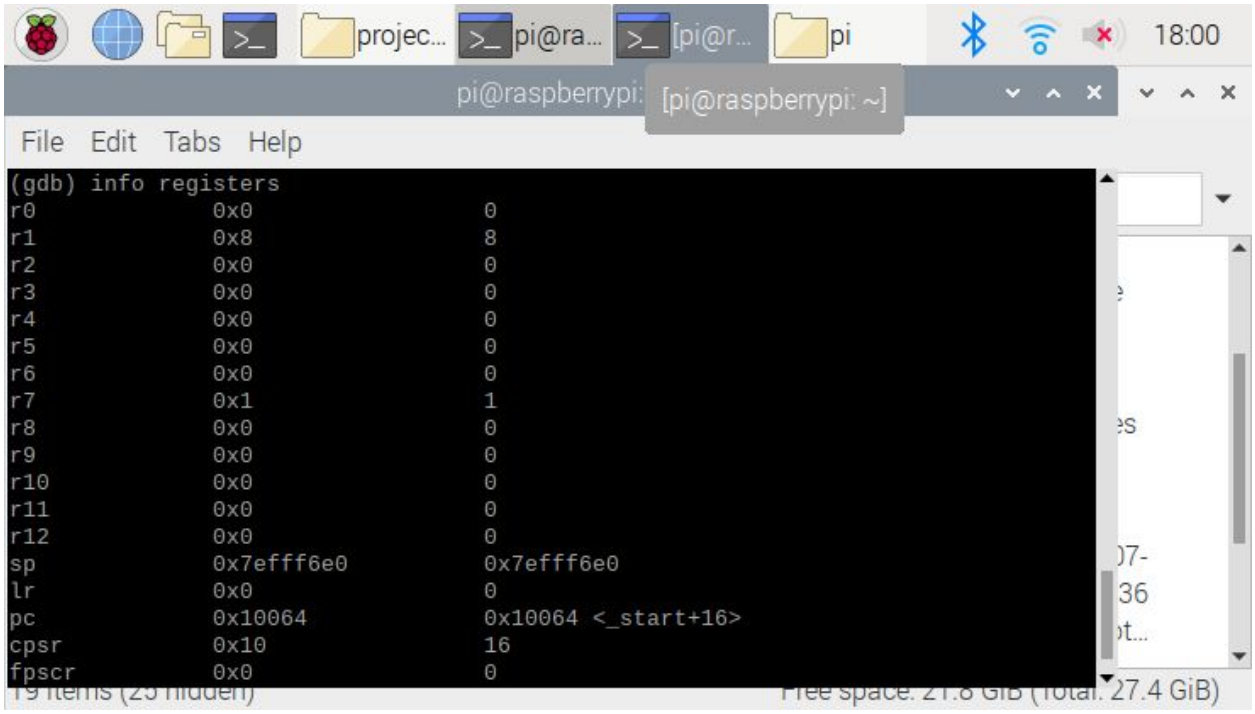
Over Here I assembled the file, created an objective file, and then created an executable file. I then launched the debugger.



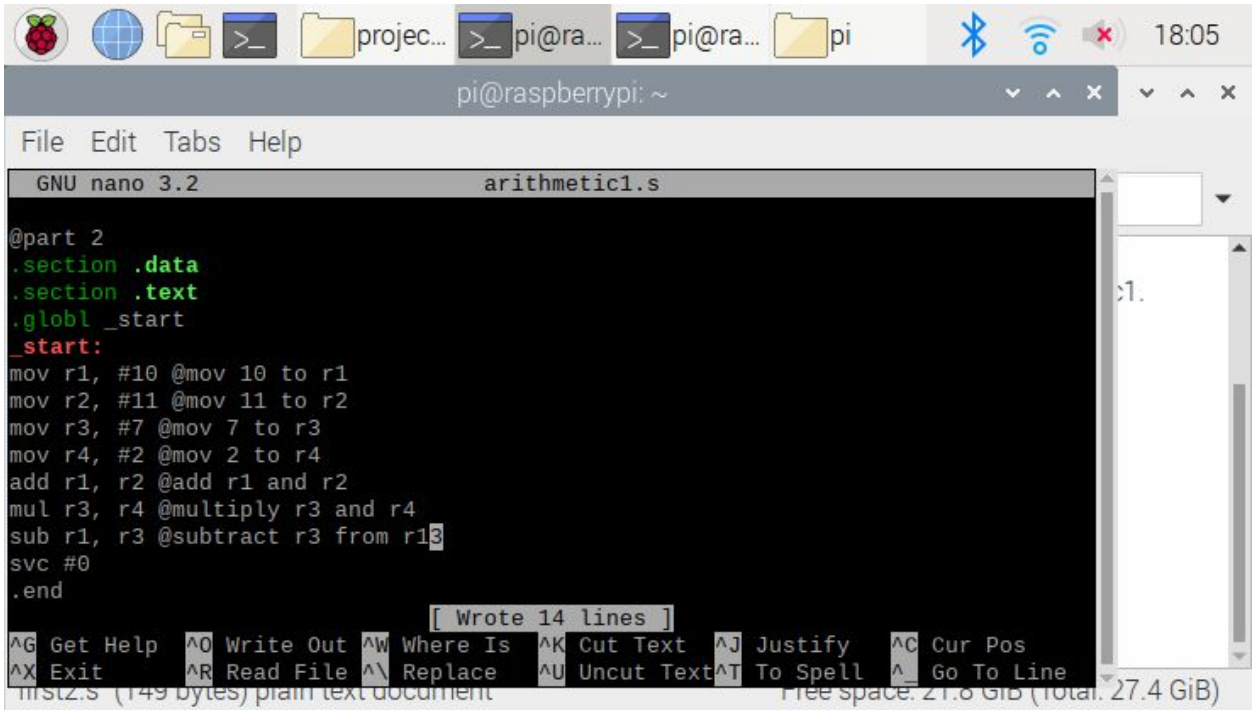
Using the GNU debugger I listed the first 10 lines of code from first.s.



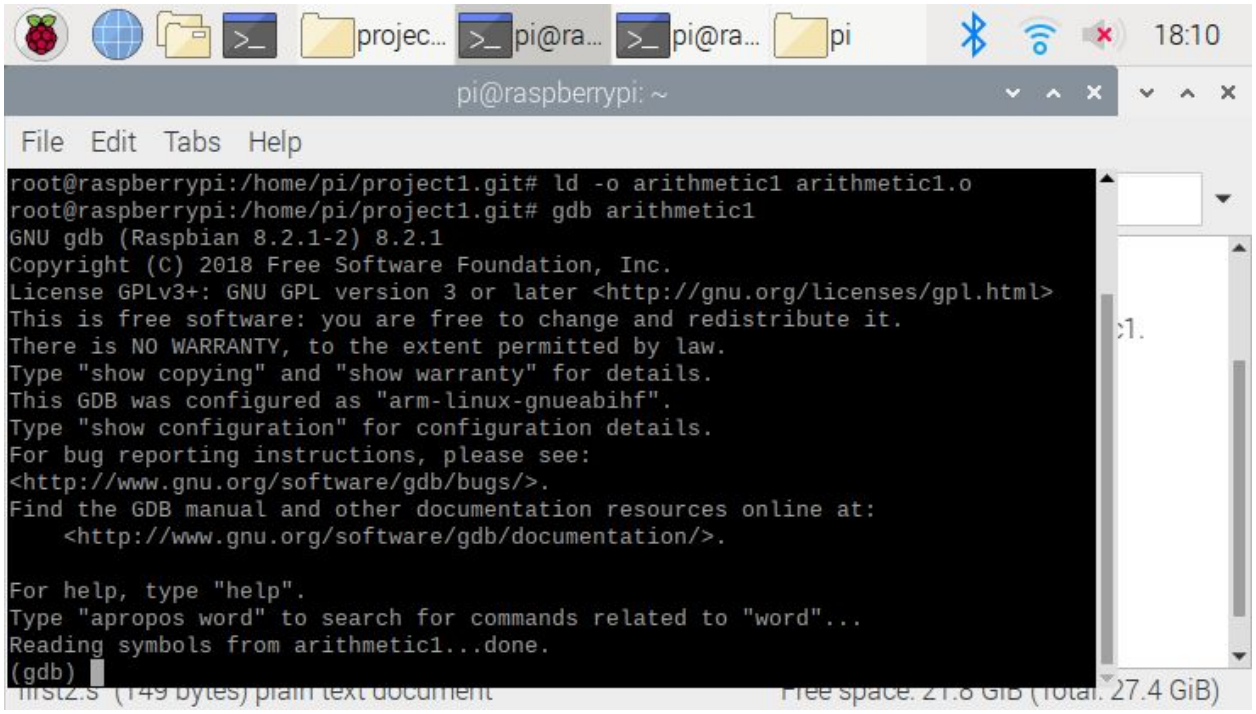
In this screenshot, I placed a breakpoint at line 11 and then ran the program.



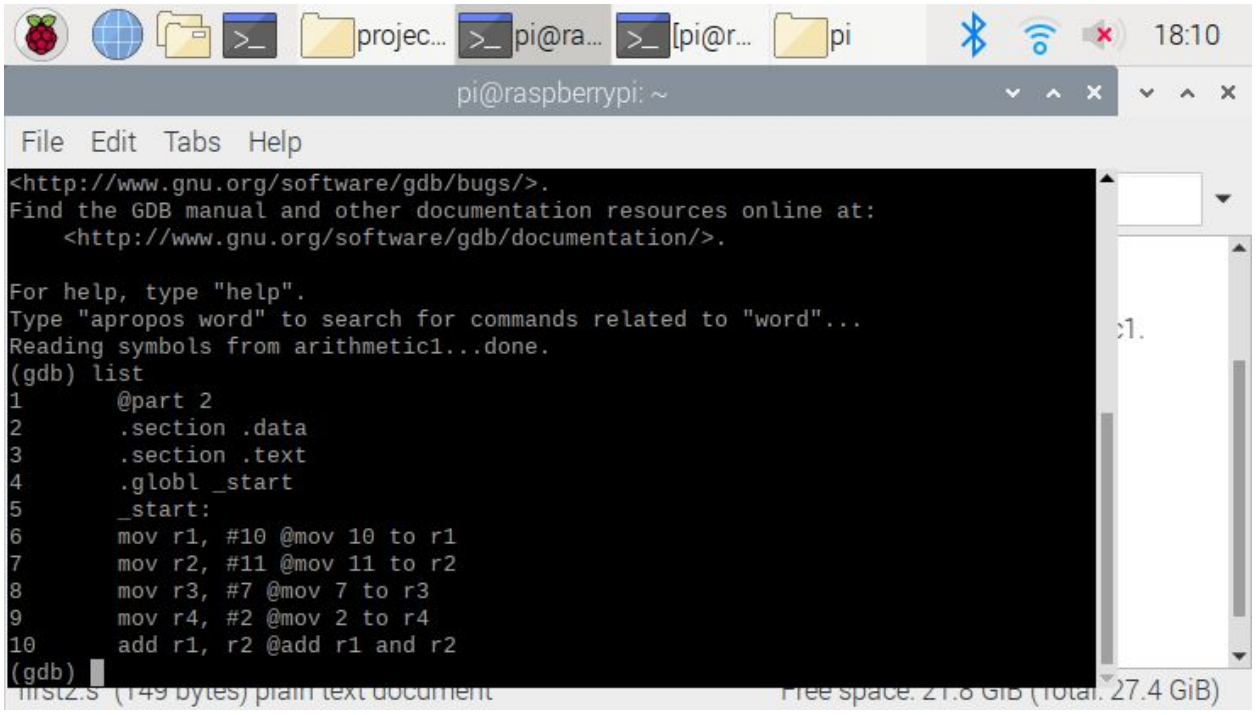
In this screenshot, I displayed the information in the registers. As you can see here in register 1 you have 8 as the value. The way this worked is that r1 had 5 in it. I then subtracted 1 and then added 4 to it which gives you the value 8. I observed in this code that you can do 2 tasks with one line of code.



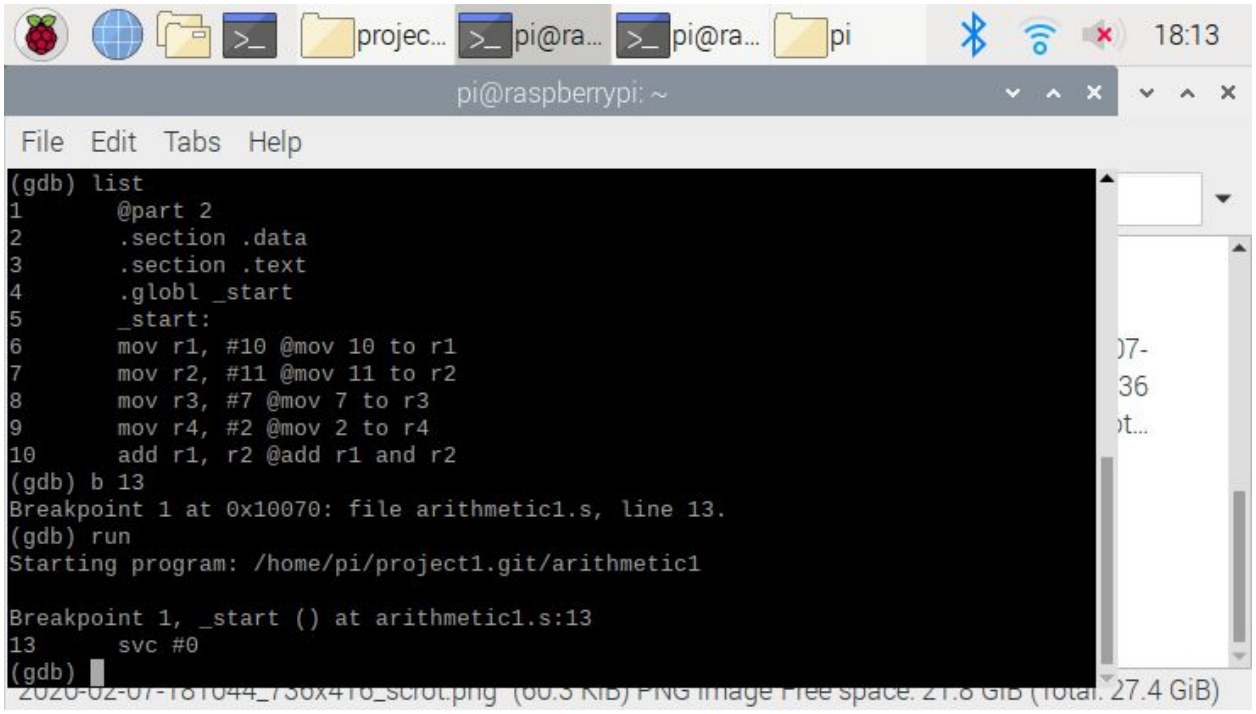
In part 2 this is the code for arithmetic1.s.



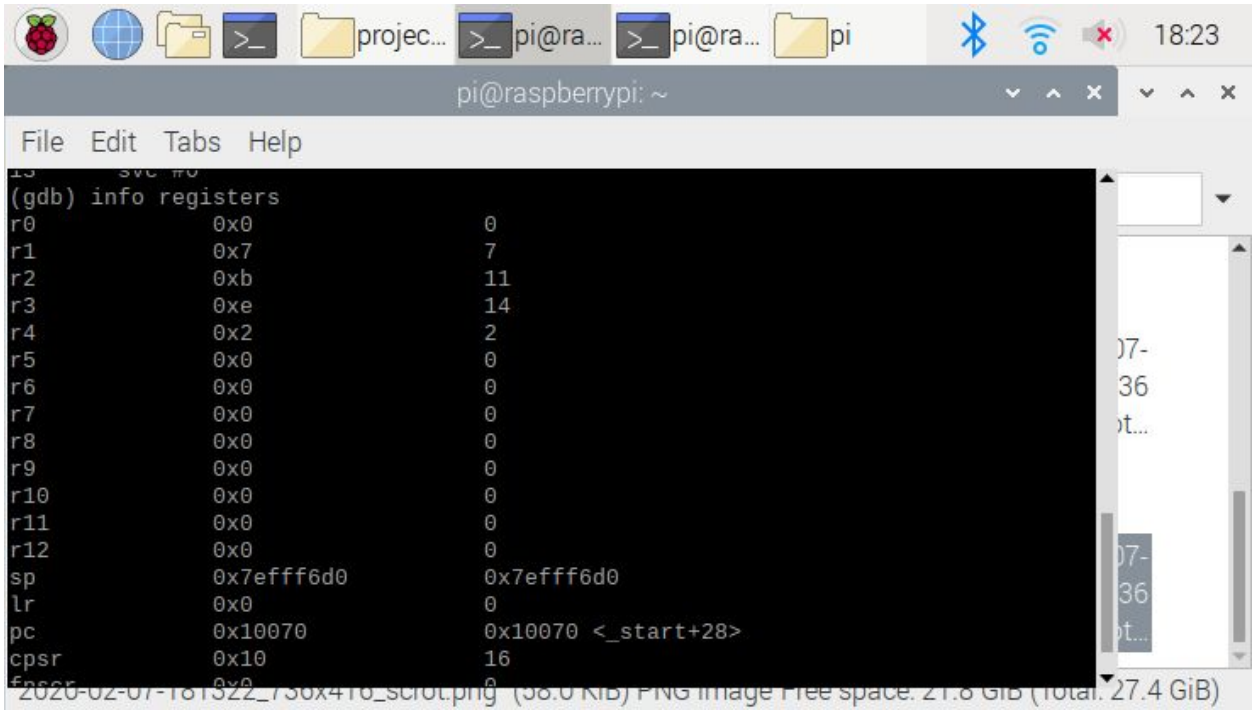
Over Here I assembled the file, created an objective file, and then created an executable file. I then launched the debugger.

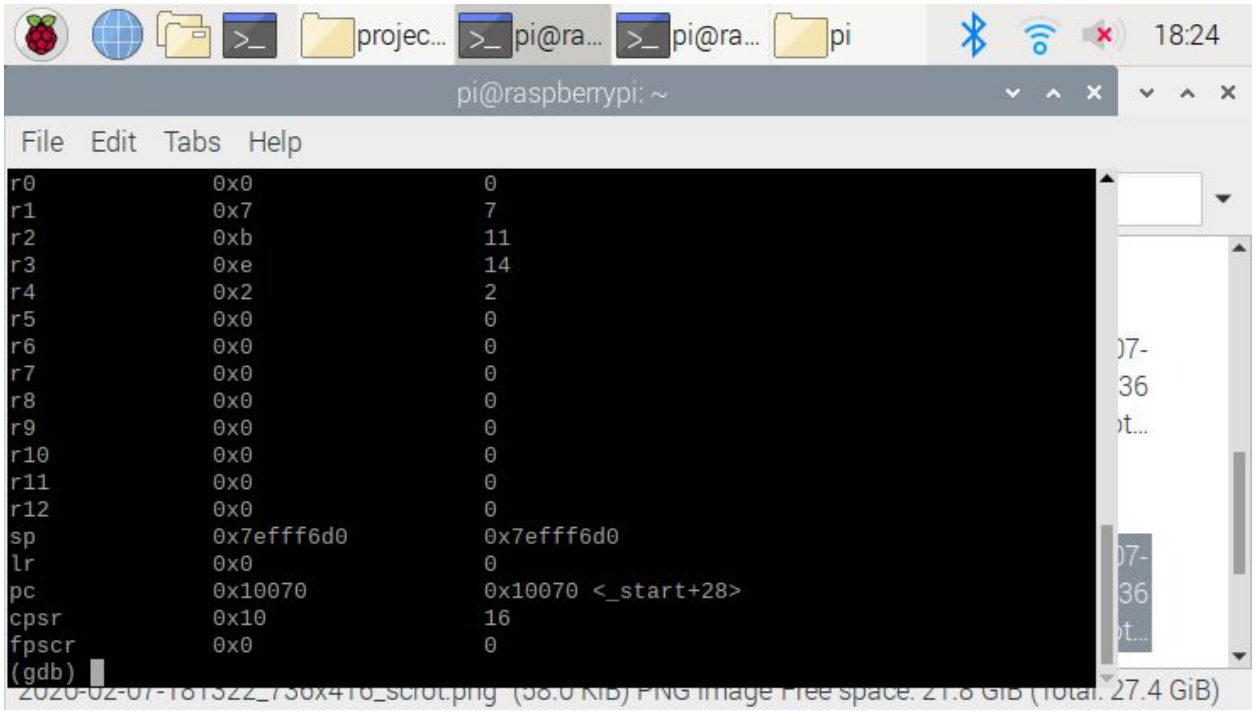


Using the GNU debugger I listed the first 10 lines of code from arithmetic1.s.



In this screenshot, I placed a breakpoint at line 13 and then ran the program.





In these screenshots, I displayed the information in the registers. The goal of part 2 was to solve A=(A+B)-(C*D). A=10, B=11,C=7, D=2. In the code, I loaded one of the values in each register. I then added, multiplied, and subtracted accordingly which left me with 7 in Register 1 (A). (21)-(14)=7. I observed that each register that was used as a source retained its value and the only register that changed in value was Register 1(A).

Teamwork Basics: Arteen Ghafourikia

Teamwork Basics

What to do to get the task accomplished and the team members' satisfaction high?
Make sure everyone is comfortable with what they are doing, and make sure that people ask any questions they have.

Work Norms:
How will work be distributed?
Work will be distributed based on what people want to do, and if we cannot reach a conclusion. We will distribute the work based on people's strengths and weaknesses to get the project done as efficiently as possible.

Who will set deadlines?
The deadlines will be set by the group, however, we will make sure the deadlines are reasonable to the work that is being assigned.

What happens if someone doesn't follow through on his/her commitment(for example misses a deadline)?
We will see if there is anything to do to help him/her finish before the main deadline and help them learn from their mistakes so they can get their work done sooner.

How will the work be reviewed?
We will each check each other's work to make sure that we turn something in that we would all be proud of.

What happens if people have different opinions about the quality of the work?
We will listen to each person's reasoning and turn in the quality of work that we would all be proud of.

What happens if people have different work habits (e.g., some people like to get assignments done right away; others work better with the pressure of a deadline).
We will put deadlines that we all find reasonable and that gives us enough time to make last-minute changes if we need to do so.

Facilitator Norms:

Will you use a facilitator?
Yes, we will use a facilitator.

How will the facilitator be chosen?
We will see who wants to be the facilitator, and if we can't come to a conclusion we will take a vote.
Will you rotate the position?
Yes, the facilitator will change.
What are the responsibilities of the facilitator?
The Facilitator's responsibility is to keep the group on track and make sure people are getting their work done.

Communication Norms:

When should communication take place and through what medium (e.g., do some people prefer to communicate through email while others would rather talk on the phone)?

Communication should take place at all times, to make sure everyone is updated on what is going on and what needs to get done. This is a group project where everyone depends on each

other to get a good grade, therefore everyone is responsible. It can take place through any medium, but we will choose a medium that works best for everyone.

As a team selects two cases out of the four mentioned in handling difficult behavior. (use your own words and your own context)
Too quiet- If someone is shy or too quiet, we will do our best to make them comfortable and make it a friendly easy to talk to the environment.
Argues-If what the person is arguing is constructive, we will use it, but if he is just being aggressive and mean we will tell him/her to be less aggressive and that it is causing trouble for the team.

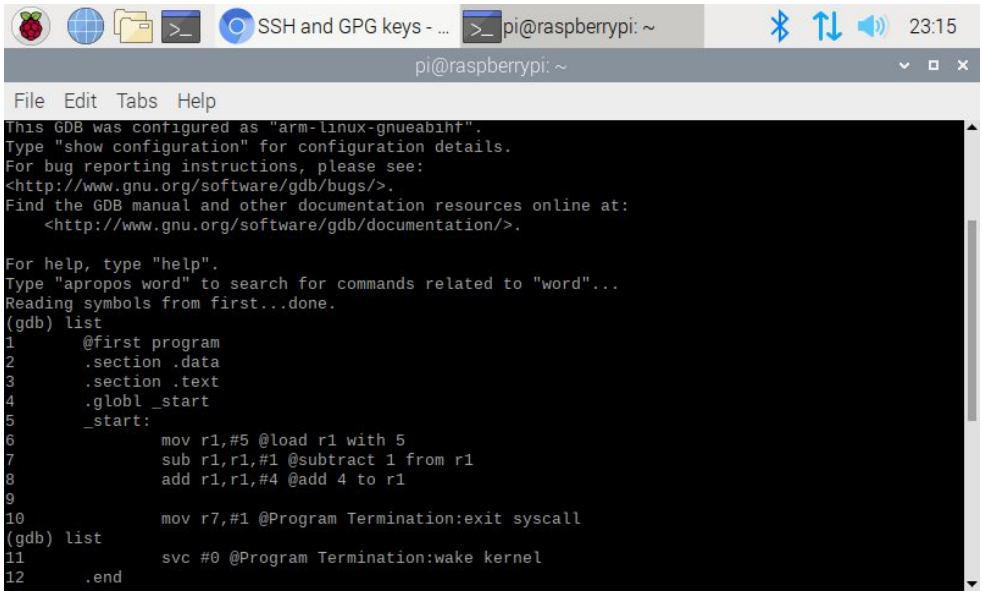
When making decisions. If the team is having trouble reaching consensus, what should you do? (use your own words and your own context)
You should look at all the different options you can take logically and as a team you should determine which decision would be the best one to make.

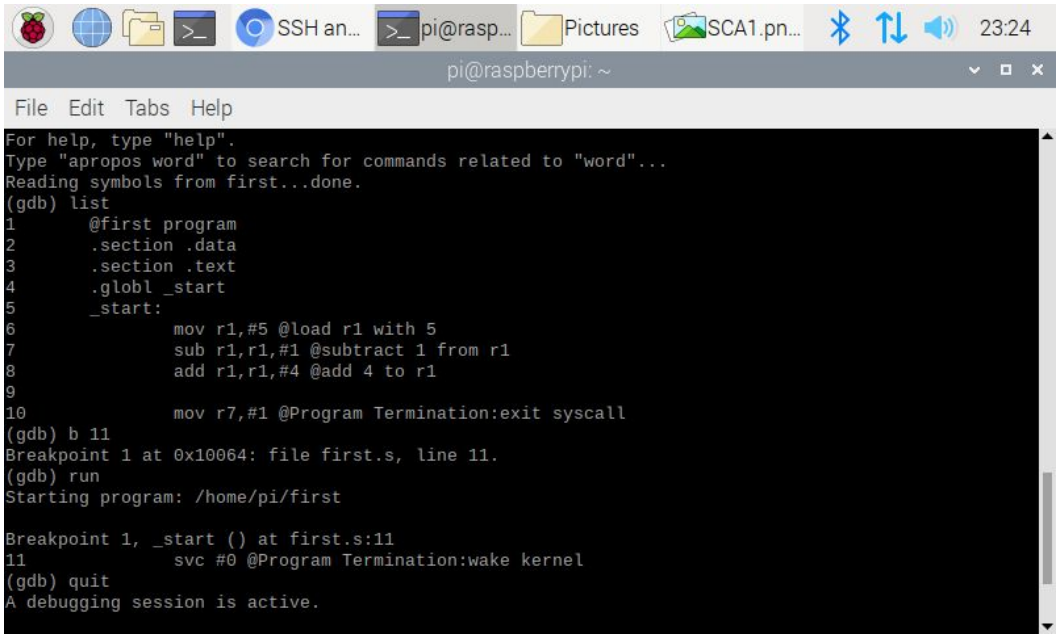
What should you do if a person may reach a decision more quickly than others and pressure people to move on before it is a good idea to do so?
We will wait and get input from everyone before we make a rash decision, to increase our probability of success.

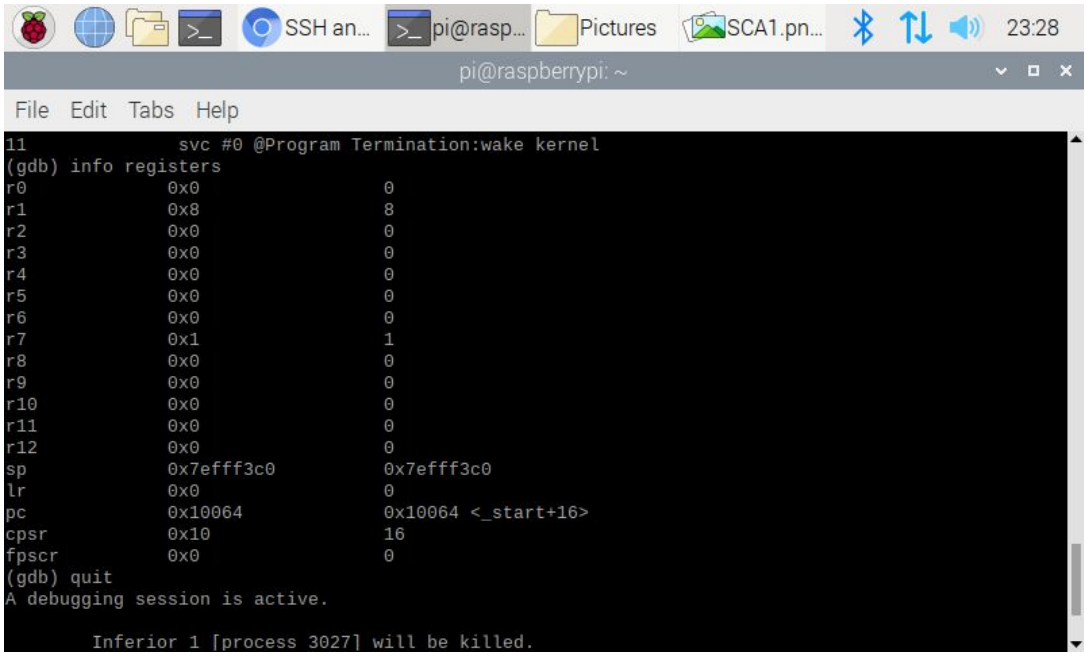
What happens if most people on a team want to get an “A” on the assignment, but another person decides that a “B” will be acceptable?
We will discuss why the person would rather get a “B” than an “A” and if the person decides not to change his/her mind. We will tell him/her that it will bring the team down and if that does not work we will get a third party to help us come to a conclusion.

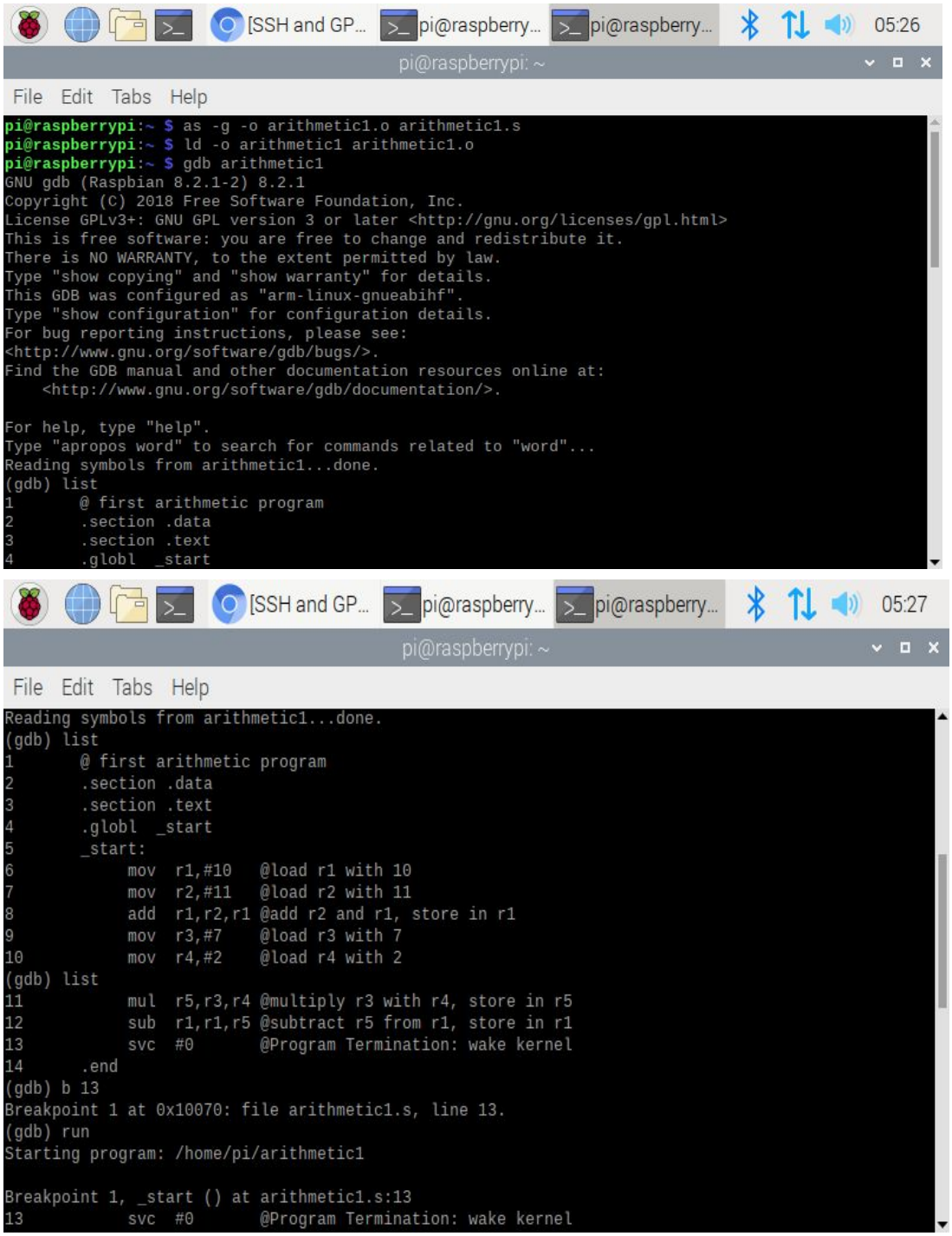
Raspberry PI Installation and ARM Assembly Programming:

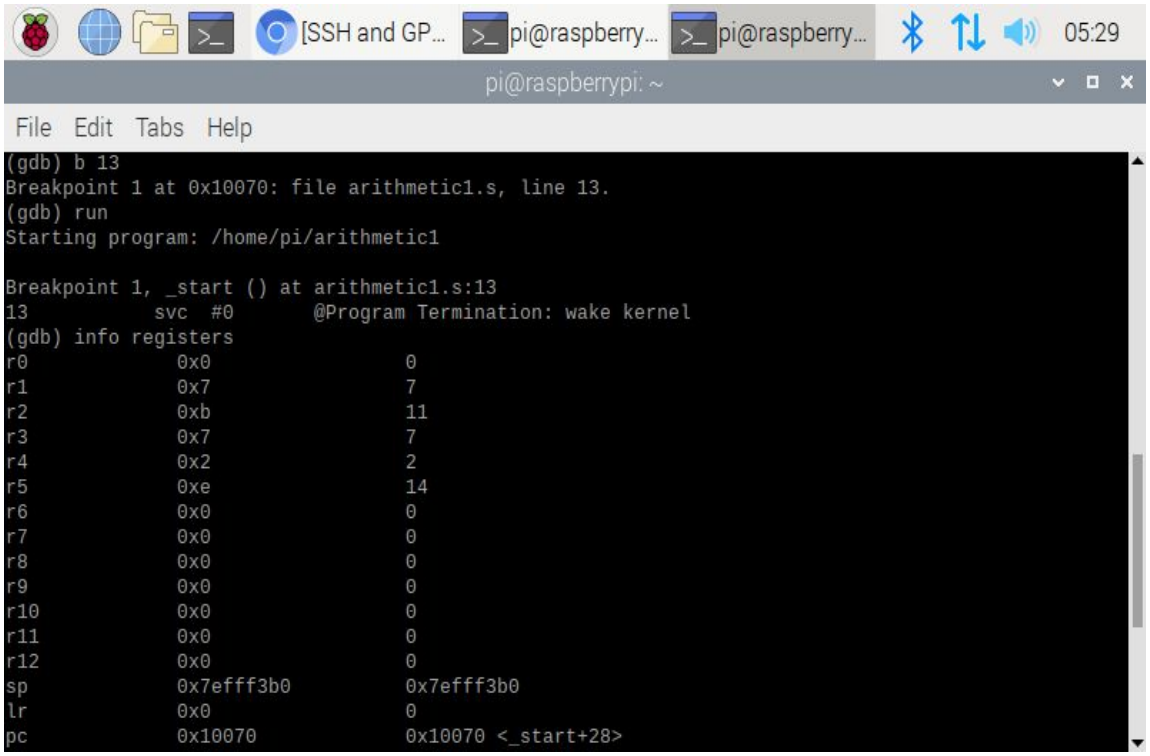
Alaya Shack

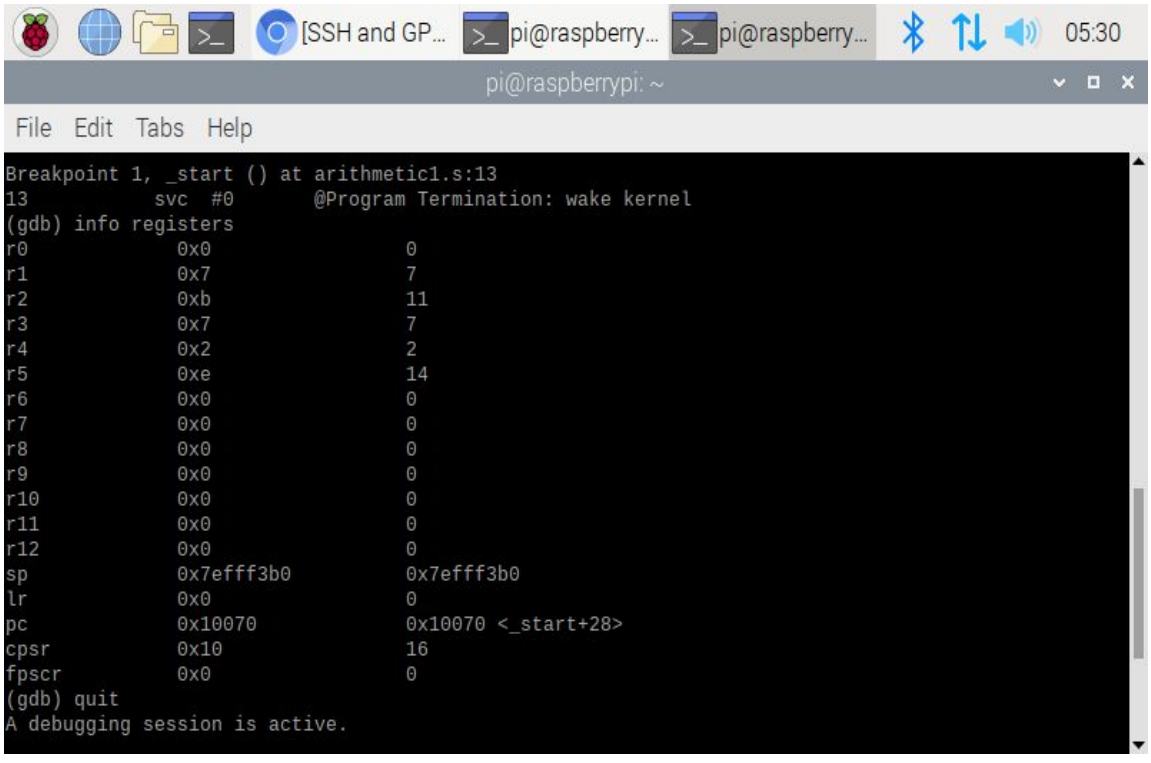

SSH and GPG keys - ...
pi@raspberrypi: ~
23:15
pi@raspberrypi: ~
File Edit Tabs Help
This GDB was configured as "arm-linux-gnueabihf".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
<http://www.gnu.org/software/gdb/documentation/>.
For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from first...done.
(gdb) list
1 @first program
2 .section .data
3 .section .text
4 .globl _start
5 _start:
6 mov r1,#5 @load r1 with 5
7 sub r1,r1,#1 @subtract 1 from r1
8 add r1,r1,#4 @add 4 to r1
9
10 mov r7,#1 @Program Termination:exit syscall
(gdb) list
11 svc #0 @Program Termination:wake kernel
12 .end


SSH an...
pi@rasp...
Pictures
SCA1.pn...
23:24
pi@raspberrypi: ~
File Edit Tabs Help
For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from first...done.
(gdb) list
1 @first program
2 .section .data
3 .section .text
4 .globl _start
5 _start:
6 mov r1,#5 @load r1 with 5
7 sub r1,r1,#1 @subtract 1 from r1
8 add r1,r1,#4 @add 4 to r1
9
10 mov r7,#1 @Program Termination:exit syscall
(gdb) b 11
Breakpoint 1 at 0x10064: file first.s, line 11.
(gdb) run
Starting program: /home/pi/first
Breakpoint 1, _start () at first.s:11
11 svc #0 @Program Termination:wake kernel
(gdb) quit
A debugging session is active.


SSH an...
pi@rasp...
Pictures
SCA1.pn...
23:28
pi@raspberrypi: ~
File Edit Tabs Help
11 svc #0 @Program Termination:wake kernel
(gdb) info registers
r0 0x0 0
r1 0x8 8
r2 0x0 0
r3 0x0 0
r4 0x0 0
r5 0x0 0
r6 0x0 0
r7 0x1 1
r8 0x0 0
r9 0x0 0
r10 0x0 0
r11 0x0 0
r12 0x0 0
sp 0x7efff3c0 0x7efff3c0
lr 0x0 0
pc 0x10064 0x10064 <_start+16>
cpsr 0x10 16
fpscr 0x0 0
(gdb) quit
A debugging session is active.
Inferior 1 [process 3027] will be killed.

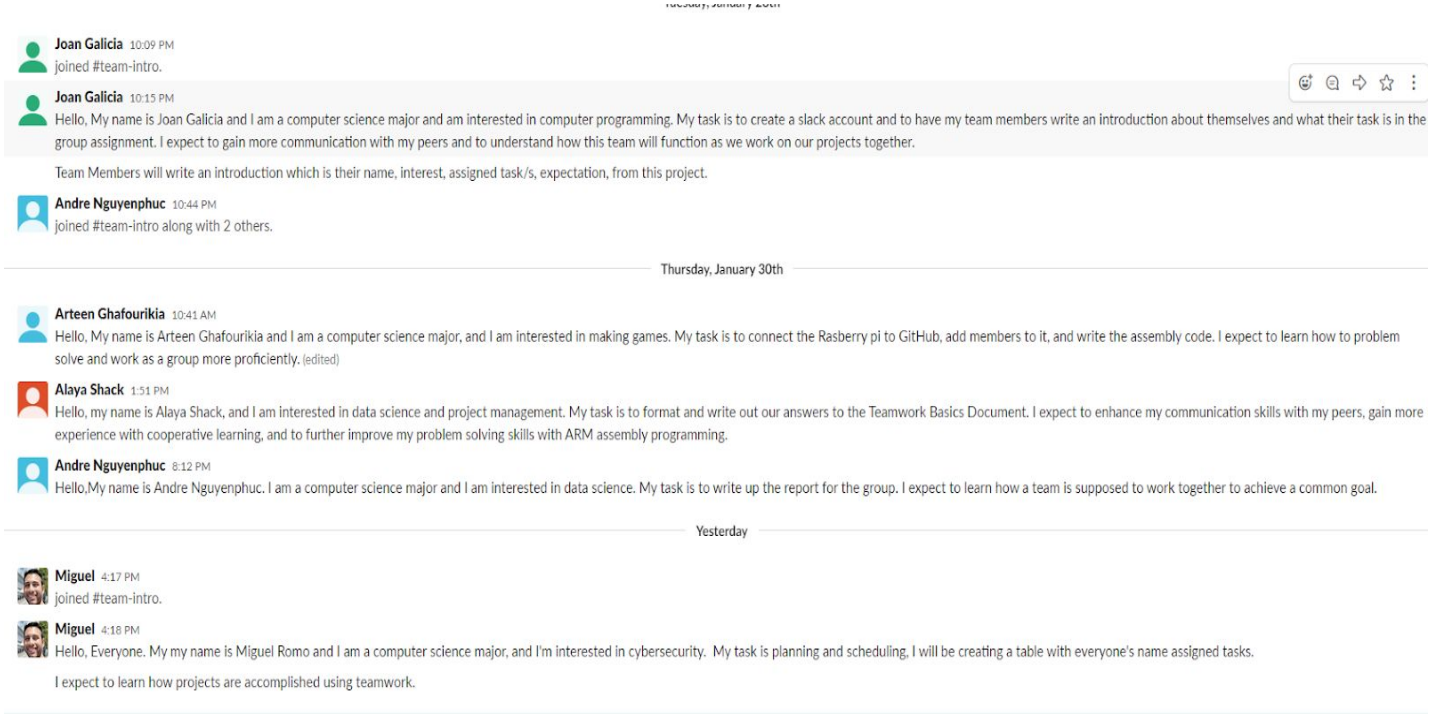

[SSH and GP...
pi@raspberry...
pi@raspberry...
05:26
pi@raspberrypi: ~
File Edit Tabs Help
pi@raspberrypi:~ $ as -g -o arithmetic1.o arithmetic1.s
pi@raspberrypi:~ $ ld -o arithmetic1 arithmetic1.o
pi@raspberrypi:~ $ gdb arithmetic1
GNU gdb (Raspbian 8.2.1-2) 8.2.1
Copyright (C) 2018 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
Type "show copying" and "show warranty" for details.
This GDB was configured as "arm-linux-gnueabihf".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
<http://www.gnu.org/software/gdb/documentation/>.
For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from arithmetic1...done.
(gdb) list
1 @ first arithmetic program
2 .section .data
3 .section .text
4 .globl _start
[SSH and GP...
pi@raspberry...
pi@raspberry...
05:27
pi@raspberrypi: ~
File Edit Tabs Help
Reading symbols from arithmetic1...done.
(gdb) list
1 @ first arithmetic program
2 .section .data
3 .section .text
4 .globl _start
5 _start:
6 mov r1,#10 @load r1 with 10
7 mov r2,#11 @load r2 with 11
8 add r1,r2,r1 @add r2 and r1, store in r1
9 mov r3,#7 @load r3 with 7
10 mov r4,#2 @load r4 with 2
(gdb) list
11 mul r5,r3,r4 @multiply r3 with r4, store in r5
12 sub r1,r1,r5 @subtract r5 from r1, store in r1
13 svc #0 @Program Termination: wake kernel
14 .end
(gdb) b 13
Breakpoint 1 at 0x10070: file arithmetic1.s, line 13.
(gdb) run
Starting program: /home/pi/arithmetic1
Breakpoint 1, _start () at arithmetic1.s:13
13 svc #0 @Program Termination: wake kernel





Appendix:

Slack: the-commuters.slack.com



Joan Galicia 10:09 PM
joined #team-intro.

Joan Galicia 10:15 PM
Hello, My name is Joan Galicia and I am a computer science major and am interested in computer programming. My task is to create a slack account and to have my team members write an introduction about themselves and what their task is in the group assignment. I expect to gain more communication with my peers and to understand how this team will function as we work on our projects together.

Team Members will write an introduction which is their name, interest, assigned task/s, expectation, from this project.

Andre Nguyenphuc 10:44 PM
joined #team-intro along with 2 others.

Thursday, January 30th

Arteen Ghafourikia 10:41 AM
Hello, My name is Arteen Ghafourikia and I am a computer science major, and I am interested in making games. My task is to connect the Rasberry pi to GitHub, add members to it, and write the assembly code. I expect to learn how to problem solve and work as a group more proficiently. (edited)

Alaya Shack 1:51 PM
Hello, my name is Alaya Shack, and I am interested in data science and project management. My task is to format and write out our answers to the Teamwork Basics Document. I expect to enhance my communication skills with my peers, gain more experience with cooperative learning, and to further improve my problem solving skills with ARM assembly programming.

Andre Nguyenphuc 8:12 PM
Hello,My name is Andre Nguyenphuc. I am a computer science major and I am interested in data science. My task is to write up the report for the group. I expect to learn how a team is supposed to work together to achieve a common goal.

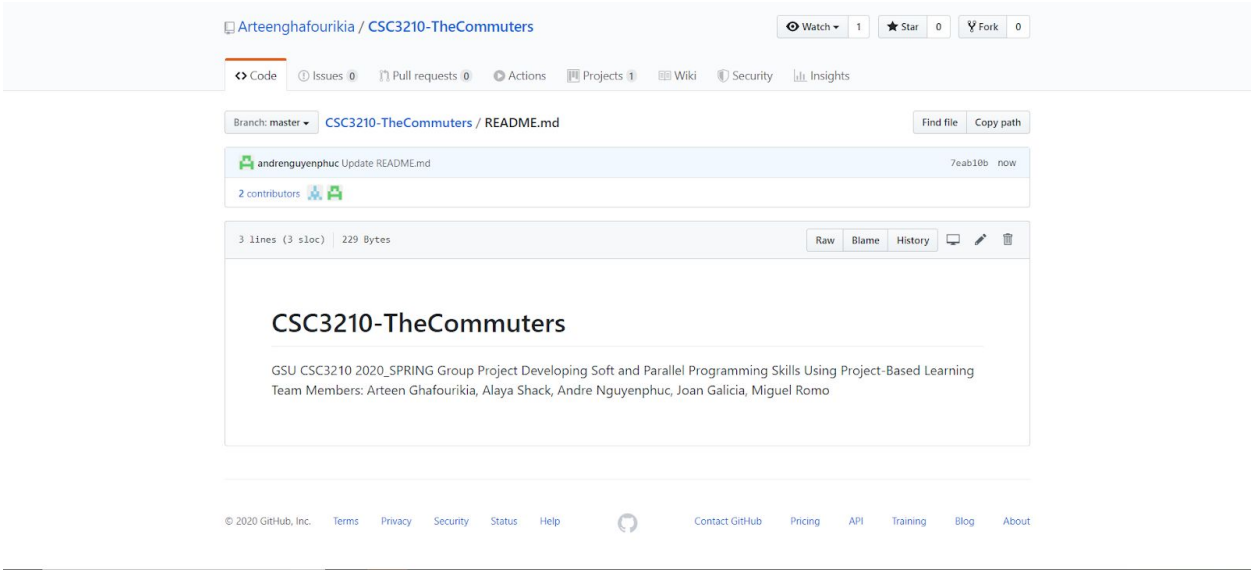
Yesterday

Miguel 4:17 PM
joined #team-intro.

Miguel 4:18 PM
Hello, Everyone. My my name is Miguel Romo and I am a computer science major, and I'm interested in cybersecurity. My task is planning and scheduling, I will be creating a table with everyone's name assigned tasks.

I expect to learn how projects are accomplished using teamwork.

Github: https://github.com/Arteenghafourikia/CSC3210-TheCommuters


Arteenghafourikia / CSC3210-TheCommuters
Watch 1
Star 0
Fork 0
Code
Issues 0
Pull requests 0
Actions
Projects 1
Wiki
Security
Insights
Branch: master
CSC3210-TheCommuters / README.md
Find file
Copy path
andrenguyenphuc Update README.md
7eab10b now
2 contributors
3 lines (3 sloc) 229 Bytes
Raw
Blame
History
CSC3210-TheCommuters
GSU CSC3210 2020_SPRING Group Project Developing Soft and Parallel Programming Skills Using Project-Based Learning
Team Members: Arteen Ghafourikia, Alaya Shack, Andre Nguyenphuc, Joan Galicia, Miguel Romo
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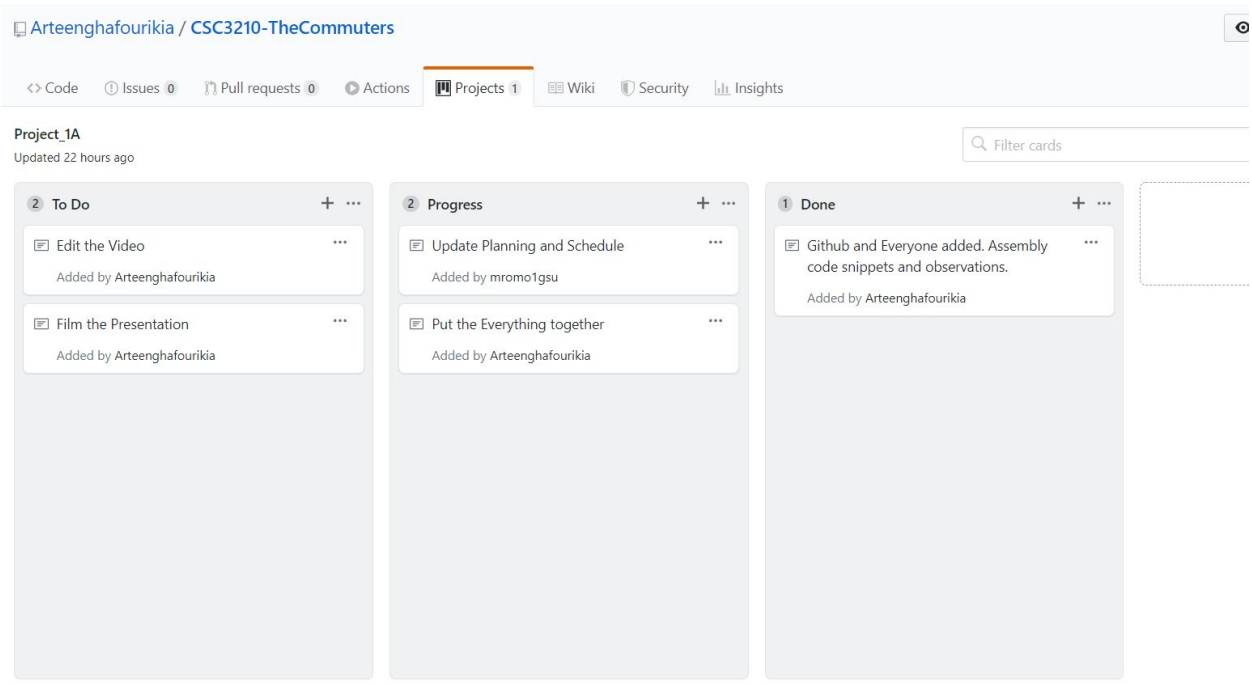
Privacy
Security
Status
Help
Contact GitHub
Pricing
API
Training
Blog
About


Arteenghafourikia / CSC3210-TheCommuters
Code
Issues 0
Pull requests 0
Actions
Projects 1
Wiki
Security
Insights
Project_1A
Updated 22 hours ago
Filter cards
2 To Do
Edit the Video
Added by Arteenghafourikia
Film the Presentation
Added by Arteenghafourikia
2 Progress
Update Planning and Schedule
Added by mromo1gsu
Put the Everything together
Added by Arteenghafourikia
1 Done
Github and Everyone added. Assembly code snippets and observations.
Added by Arteenghafourikia