W5b-Variables AL program

1. Create run.sh file
   Terminal: nano run.sh

```
#!/bin/bash
nasm -f elf ./$1.asm
ld -m elf_i386 ./$1.o -o ./$1

./$1
```

2. Change Access permission for run.sh
Terminal: chmod 777 run.sh

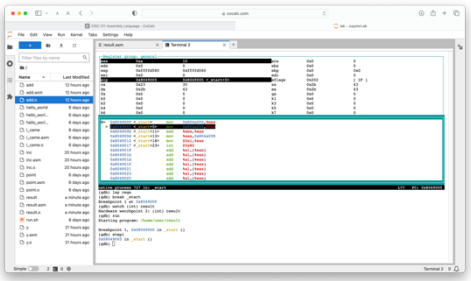
3. Create file in Assembly Language code to run
Terminal : nano result.asm

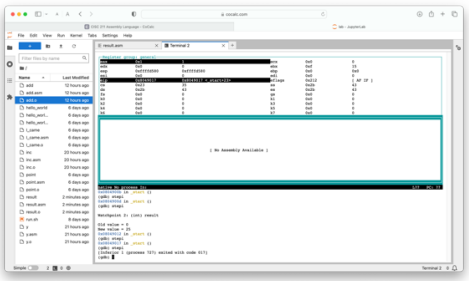
```
section .text
      global _start

_start:
            mov eax,[var1]  ;load var1 to eax
            mov ebx,[var2]  ;load var2 to ebx
            add eax,ebx     ;update eax result by adding var1 and var2
            mov [result], eax  ;store eax value to result variable

      mov eax,1       ;set eax register to 1
      int 0x80        ;interrupt 0x80

section .bss
result resb 1    ;define uninitialized variable result.

section .data
   var1 dd 10    ;initialize var1 to be 10.
   var2 dd 15    ;initialize var2 to be 15.
```

4. Change Access permission for result.asm
Terminal: chmod 777 result.asm

4. Run the result code with run.sh
Terminal: ./run.sh result

5. GDB debugging and checking register process
gdb result
layout asm
layout regs
watch (int) result
break _start
run
stepi <execute step by step.>





Watchpoint 2: (int) result

Old value = 0
New value =25

***Challenge: While initializing variables, I got very large number for var1, which is supposed to be 10.
Some attempts: 1. Change var1 and var2 data type from db to dd.
2. Change result resb from 1 to 4.
3. Add or remove [] for var1 and var2 between values and address pointer.
It took me hours to fix this issue.