

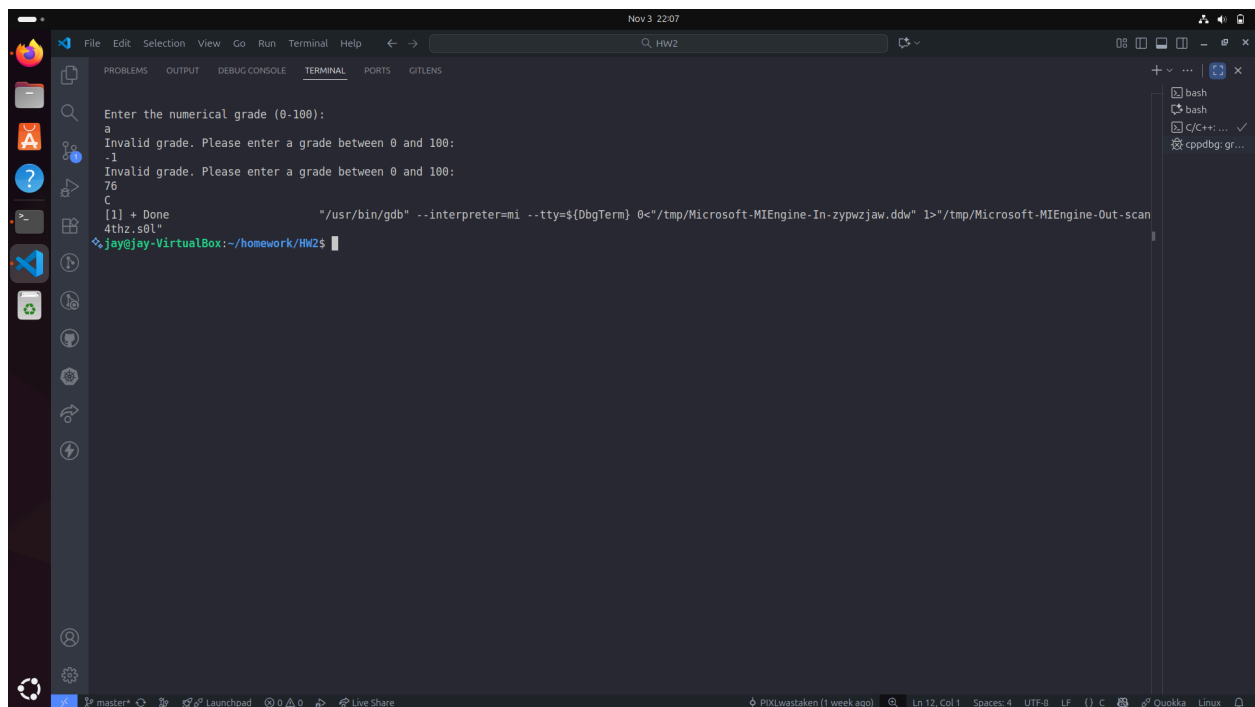
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CSI-1420 “Intro to Unix & C Programming”

HW2 C Control Flow Structures

Edge Cases

Question 1, Problem 1:

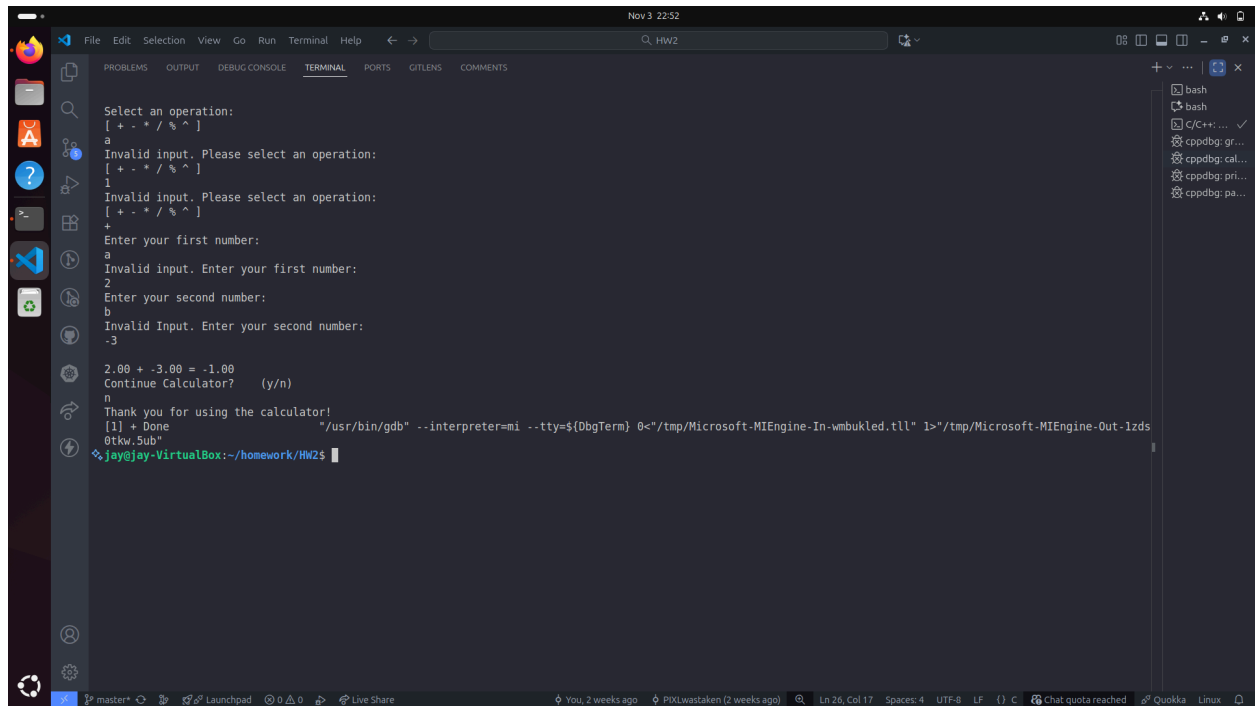


The screenshot shows a terminal window with the following output:

```
Enter the numerical grade (0-100):  
a  
Invalid grade. Please enter a grade between 0 and 100:  
-1  
Invalid grade. Please enter a grade between 0 and 100:  
76  
C  
[1] + Done  
4thz.s8l"
```

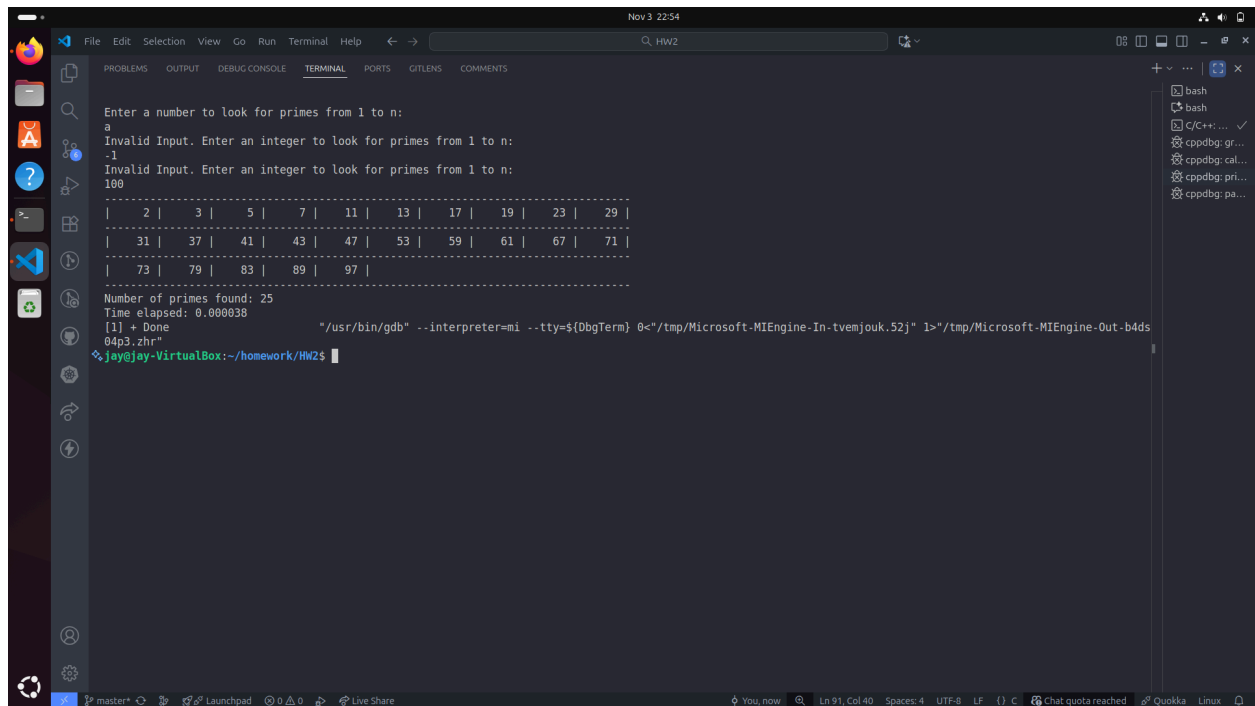
The terminal window is titled "Nov 3 22:07" and "HW2". The prompt is "jay@jay-VirtualBox:~/homework/HW2\$". The terminal window is part of a larger application with a menu bar (File, Edit, Selection, View, Go, Run, Terminal, Help) and a toolbar. The status bar at the bottom shows "Ln 12, Col 1", "Spaces: 4", "UTF-8", "LF", and "C".

Question 1, Problem 2:



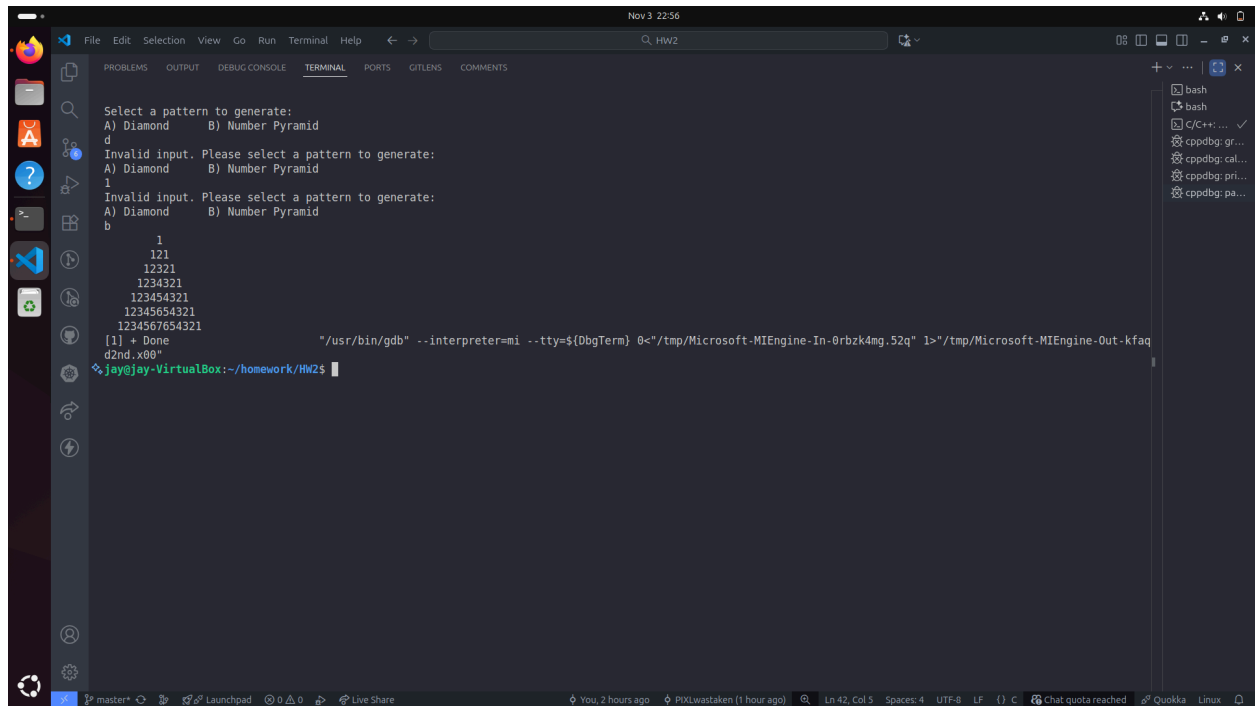
```
Nov 3 22:52
File Edit Selection View Go Run Terminal Help
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GIT LENS COMMENTS
Select an operation:
[ + - * / % ^ ]
a
Invalid input. Please select an operation:
[ + - * / % ^ ]
1
Invalid input. Please select an operation:
[ + - * / % ^ ]
+
Enter your first number:
a
Invalid input. Enter your first number:
2
Enter your second number:
b
Invalid Input. Enter your second number:
-3
2.00 + -3.00 = -1.00
Continue Calculator? (y/n)
n
Thank you for using the calculator!
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-wmbukled.ttl" 1>"/tmp/Microsoft-MIEngine-Out-1zds
0tkw.5ub"
jayjay-VirtualBox:~/homework/HW2$
```

Question 2, Problem 1:



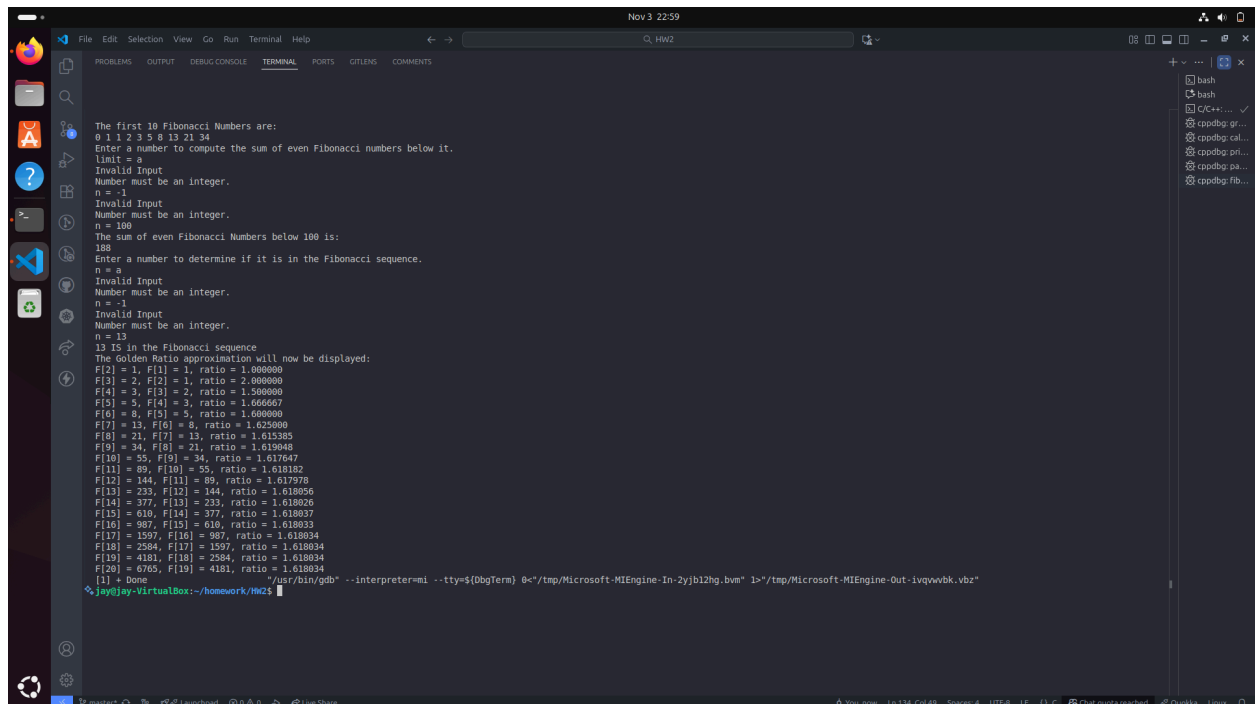
```
Nov 3 22:54
File Edit Selection View Go Run Terminal Help
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GIT LENS COMMENTS
Enter a number to look for primes from 1 to n:
a
Invalid Input. Enter an integer to look for primes from 1 to n:
-1
Invalid Input. Enter an integer to look for primes from 1 to n:
100
-----
| 2 | 3 | 5 | 7 | 11 | 13 | 17 | 19 | 23 | 29 |
| 31 | 37 | 41 | 43 | 47 | 53 | 59 | 61 | 67 | 71 |
| 73 | 79 | 83 | 89 | 97 |
-----
Number of primes found: 25
Time elapsed: 0.000038
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-tvemjouk.52j" 1>"/tmp/Microsoft-MIEngine-Out-b4ds
04p3.zhr"
jayjay-VirtualBox:~/homework/HW2$
```

Question 2, Problem 2:



```
Nov 3 22:56
File Edit Selection View Go Run Terminal Help
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GIT LENS COMMENTS
Select a pattern to generate:
A) Diamond B) Number Pyramid
d
Invalid input. Please select a pattern to generate:
A) Diamond B) Number Pyramid
1
Invalid input. Please select a pattern to generate:
A) Diamond B) Number Pyramid
b
      1
     121
    12321
   1234321
  123454321
 12345654321
1234567654321
[1] * Done
d2nd.x86" /usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-0rbzk4mg.52q" 1>"/tmp/Microsoft-MIEngine-Out-kfaq
jayjay-VirtualBox:~/homework/HW2$
```

Question 2, Problem 3:



```
Nov 3 22:59
File Edit Selection View Go Run Terminal Help
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GIT LENS COMMENTS
The first 10 Fibonacci Numbers are:
0 1 1 2 3 5 8 13 21 34
Enter a number to compute the sum of even Fibonacci numbers below it.
Limit = a
Invalid Input
Number must be an integer.
n = -1
Invalid Input
Number must be an integer.
n = 100
The sum of even Fibonacci Numbers below 100 is:
188
Enter a number to determine if it is in the Fibonacci sequence.
n = a
Invalid Input
Number must be an integer.
n = -1
Invalid Input
Number must be an integer.
n = 13
13 IS in the Fibonacci sequence
The Golden Ratio approximation will now be displayed:
F[2] = 1, F[1] = 1, ratio = 1.000000
F[3] = 2, F[2] = 1, ratio = 2.000000
F[4] = 3, F[3] = 2, ratio = 1.500000
F[5] = 5, F[4] = 3, ratio = 1.666667
F[6] = 8, F[5] = 5, ratio = 1.600000
F[7] = 13, F[6] = 8, ratio = 1.625000
F[8] = 21, F[7] = 13, ratio = 1.615385
F[9] = 34, F[8] = 21, ratio = 1.619048
F[10] = 55, F[9] = 34, ratio = 1.617647
F[11] = 89, F[10] = 55, ratio = 1.618182
F[12] = 144, F[11] = 89, ratio = 1.617978
F[13] = 233, F[12] = 144, ratio = 1.618056
F[14] = 377, F[13] = 233, ratio = 1.618026
F[15] = 610, F[14] = 377, ratio = 1.618037
F[16] = 987, F[15] = 610, ratio = 1.618033
F[17] = 1597, F[16] = 987, ratio = 1.618034
F[18] = 2584, F[17] = 1597, ratio = 1.618034
F[19] = 4181, F[18] = 2584, ratio = 1.618034
F[20] = 6765, F[19] = 4181, ratio = 1.618034
[1] * Done
/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-2yjb12hg.bvm" 1>"/tmp/Microsoft-MIEngine-Out-lvqvwbk.vbz"
jayjay-VirtualBox:~/homework/HW2$
```