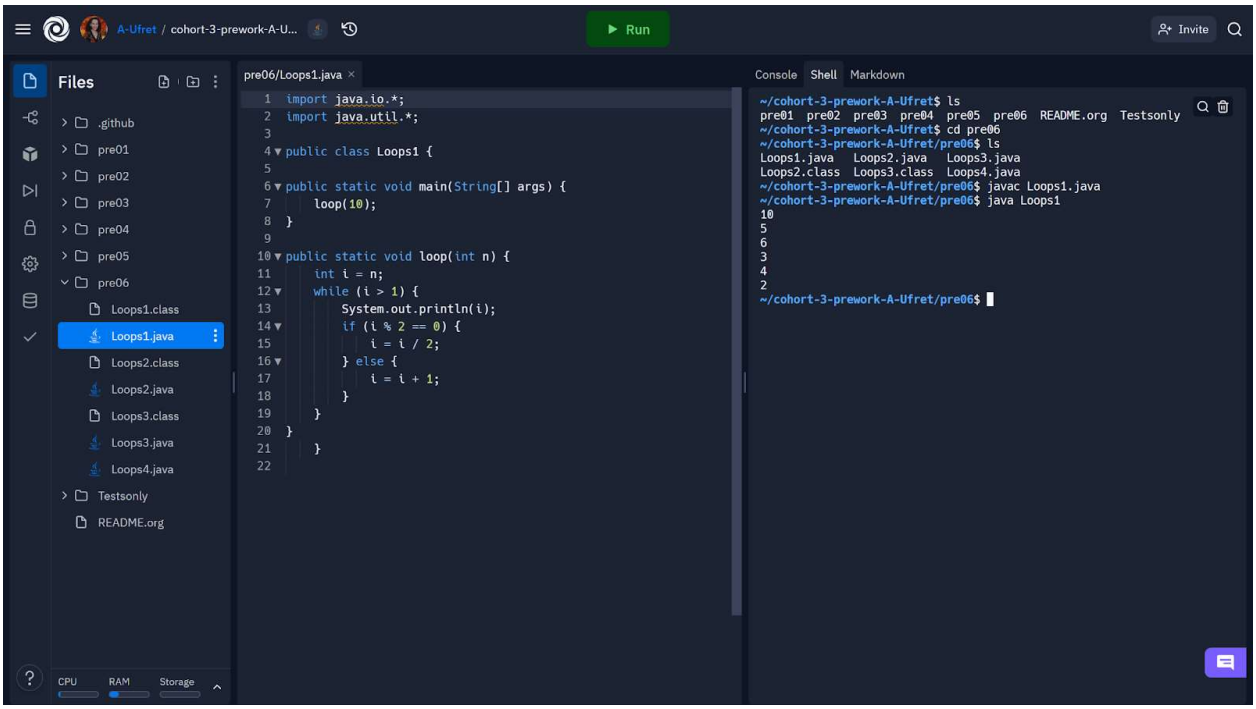
Ex1- pre06



1. **Draw a table that shows the value of the variables `i` and `n` during the execution of `loop`. The table should contain one column for each variable and one line for each iteration.**

n	i	Description
10	10	Loop initiated with int i=n, so n=10, yields i=10. Then, the loop takes output i as the next value for n for each iteration. The loop ends at n=4, following if with 4/2 (since remainer=0), it yields i=2. With the condition is defined for "while" i>1, n cannot take on value 2 from output, since 2/2 does not have a remainer, value 2 would follow "if" statement, and yield 2/2 which is equal to 1 and outside the parameters of i>1. Note: n values 5 and 3 follow the "else" statement (i = i +1), since these values /2 do not have a remainder of 0 (with output for n=5 yielding 5+1=6 and output for 3 yielding 3+1=4. *See Table left.*
10	5	
5	6	
6	3	
3	4	
4	2	

2. What is the output of this program? Output for Loop method (value for i) when n=10 is:

   i: 10 ➳ 5 ➳ 6 ➳ 3 ➳ 4 ➳ 2

3. **Can you prove that this loop terminates for any positive value of `n`?**

We know that the loop terminates for any positive value of `n`

because the loop is defined for “while” n>1 , with conditions for the output for n=2 specified and “else” for all other values when n is greater than 1 (and not This means that all positive values for n are specified with a value, bringing the loop to an end.