

Assignment 1 - Assumption Document

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Question 1:

- ❖ Return -1 when $n \neq 0$ then the output is $(-1, 0) \Rightarrow \text{INVALID}$
- ❖ For all other cases the output is generated according to the C programming language, quotient and remainder
- ❖ Example:

INPUT	OUTPUT
(7,4)	(1,3)
(7,-4)	(-1,3)
(-7,4)	(-1,-3)
(-7,-4)	(1,-3)

Question 2:

- ❖ $a > 0$ and $\text{GCD}(a, 0)$ and $\text{GCD}(0, a)$ is ' a '
- ❖ $\text{GCD}(a, b)$ returns -1 if $a < 0$ or $b < 0$
- ❖ $\text{GCD}(0, 0)$ is 0
- ❖ The order of Numbers doesn't matter that is $\text{GCD}(6, 21) = \text{GCD}(21, 6) = 3$

Question 3:

- ❖ If $(N > 1)$ then
 - IF N IS PRIME $\Rightarrow \text{RETURN } 1 \Rightarrow \text{TRUE}$

➤ IF N IS NOT PRIME \Rightarrow RETURN 0 \Rightarrow FALSE

❖ If $(N \leq 1)$ RETURN 0 \Rightarrow FALSE

Question 4:

❖ If $(N > 1)$ then Returns the Largest Prime Factor

❖ Else RETURN -1

Question 5:

❖ If $(N > 0)$ then Returns the SUM OF SQUARES TILL N

❖ Else RETURN -1

Ex: $N=3 \implies \text{output}=14$