



# UNIVERSITY OF JOHANNESBURG

## FACULTY OF SCIENCE

### COMPUTER SCIENCE 1A

### SAMPLE DESIGN

#### Problem Description

Write a C++ program USING Chat GPT so that for Option B your program will calculate the sum of  $n$  Fibonacci numbers ( $n$  is given by the user).

#### Input & Output

Input	
<i>Input Description</i>	<i>Mechanism</i>
Number of terms	Standard input steam
Output	
<i>Output Description</i>	<i>Stream (optional)</i>
Sum of Fibonacci Numbers	Standard output stream
Error Message	Standard output display

#### Data Format

<i>Identifier</i>	<i>Data Type</i>	<i>Description</i>
n	Integer	Users Number of terms
a, b, c	Integer	Used to determain/add terms
sum	Integer	Total sum of all terms

#### Pseudo Code

$n \leftarrow$  User input

for ( $i = 3$ , while  $i$  is  $\leq n$ , increase  $i$  by 1)

$c = a + b$

$a = b$

$b = c$

$sum += c$

Display sum

## UML Activity Diagram

