**Challenge 1:**

Get the nth number in the Fibonacci sequence given n

**Programming Language Used:** SAP ABAP

**Solution:**

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| \*- Input for the Nth position of Fibonacci series PARAMETERS: lv\_n TYPE i.  \*- local variables DATA: lv\_x TYPE int4,       lv\_y TYPE int4 VALUE 1.  \*- 1) For the first 2 numbers in the sequence IF lv\_n EQ 1.   WRITE: |{ lv\_x }|. " Print 0 ELSEIF lv\_n EQ 2.   WRITE: |{ lv\_y }|. " Print 1 ENDIF.  \*- 2) From the 3rd number onward in the sequence lv\_n = lv\_n - 2.  DO lv\_n TIMES.  \*- 3) Add the preceeding 2 consecutive numbers to get the new F number   DATA(lv\_z) = lv\_x + lv\_y.  \*- 4) Change the numbers to be added for the next loop   lv\_x = lv\_y.   lv\_y = lv\_z.  ENDDO.  IF lv\_z IS NOT INITIAL.   WRITE: |{ lv\_z }|. "Print the new F number to screen ENDIF. |

**Execution in SAP**

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| **Test 1:**    **Result:**    **Test 2:**    **Result:** |

**Challenge 2:**

Write a solution to find the character that has the highest number of occurrences within a certain string, ignoring case. If there is more than one character with equal highest occurrences, return the character that appeared first within the string.

For example: Input: "Character" Output: c

**Programming Language Used:** SAP ABAP

**Solution:**

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| \*- Input string (word) PARAMETERS: p\_in TYPE string.  \*- local variables DATA: lv\_pos   TYPE i,       gv\_count TYPE i.  \*- 1) Determine the length of the input string DATA(lv\_strlen) = strlen( p\_in ).  \*- Do length times DO lv\_strlen TIMES.  \*- 2) Read the character, position wise starting from 1st position   DATA(lv\_char) = p\_in+lv\_pos(1).  \*- 3) Find the count of the current char in the string   FIND ALL OCCURRENCES OF lv\_char IN p\_in  IGNORING CASE MATCH COUNT DATA(lv\_count).  \*- 4) Compare the count of current char with that of the previous one   IF lv\_count GT gv\_count. "for first loop it will be first char count  \*-  5) If the count is greater, store the current character and its count     DATA(gv\_char) = lv\_char.     gv\_count = lv\_count.    ENDIF.  \*- 6)Proceed to next character   lv\_pos = lv\_pos + 1. ENDDO.  \*- 7) Print the character and the count to screen WRITE: p\_in. WRITE: / gv\_char, ',', |{ gv\_count }|. |

**Execution in SAP**

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| **Test 1:**    **Result: T** is repeated more than other characters    **Test 2:**    **Result:**  Both **I** and **S** are repeated 6 times. But since **I** occurred first in the word, it is printed. |