

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

SCHOOL OF COMPUTING

SEMESTER III / YEAR II

SITA1301 – PROGRAMMING IN JAVA

ASSIGNMENT I – JAVA FUNDAMENTALS

1.

a. Using arrays in java implement matrix addition:

Input Matrix (assign values): a, b

Output Matrix: $c = a + b$

Print the matrix c

b. Using arrays in java implement matrix multiplication:

Input Matrix (assign values): a, b

Output Matrix: $c = a * b$

Print the matrix c

c. Using arrays in java implement matrix transpose:

Input Matrix (assign values): a

Output Matrix: $b = \text{transpose}(a)$

Print the matrix b

2. Generate fibonacci series (to some number n)

Store the result in an array identified by "fibo" of size n.

output:

fibo[0] = 0

fibo[1] = 1

fibo[2] = 1

fibo[3] = 2

fibonacci[4] = 3
fibonacci[5] = 5
fibonacci[6] = 8
fibonacci[7] = 13
fibonacci[8] = 21
and so on..

3. Consider the string

a) INPUT: "MALAYALAM"

Output:

first = [M, A, L, A]

second = [A, L, A, M]

output: **Palindrome**

b) INPUT: "1234123"

Output:

first = [1,2,3]

second = [3,2,1]

Output: **Palindrome**

c) INPUT: "SIST"

first = []

second = []

Output: **Not Palindrome**

d) INPUT: "CSE"

first = []

second = []

Output: **Not a Palindrome**

4.

- a. Is it possible to convert the decimal value of 10 to decimal 8? if yes, how?
- b. Is it possible to convert the decimal value of 15 to decimal 1? if yes, how?

5. If red colour is coded as (255, 0, 0) and is identified by "redColour".

- a. Convert the given red colour to blue (0, 255, 0) and store in "blueColour"
- b. Convert blue to green (0, 0, 255) and store in "greenColour"