**1)** Print the following pattern :

**Input:** 5

**Output:**

1

12

123

1234

12345

**2)** print the following pattern

**Input:**

5

**Output:**

11111

22222

33333

44444

55555

**3)** print the following pattern:

**Input:** 5

**Output:**

12345

23451

34512

45123

51234

**4)** print the following pattern:

**Input:**

5

**Output:**

54321

4321

321

21

1

**5)** Find if the given matrix is lower triangular matrix or upper triangular matrix or no triangular matrix.

**Input:**

n: number of rows and columns.

3

1 2 3

4 5 6

1 2 3

**Output:**

No triangular matrix

**6)** Find the next smallest element for each element in an array from its position to the last element.. If no small number, then print -1.

**Input:**

n: number of elements in an array:

array elements:

3 1 2 5 4

**Output:**

2 -1 -1 4 -1

**Explanation:**

for 3, the next smallest number is 2.

for 1, there exists none. So -1.

for 2 also -1.

for 5, there 4

and for 4, -1.

**7)** Get the input as an string that contains the number at first and their respective mathamatical operations at last. It should give the output..

**Input:**

12345+\*-/

**Output:**

1

**Explanation:**

((((1+2)\*3)-4)/5)= 1

**8)** Display the frequency of each character in the given string:

**Input:** saravanan

**Output:**

s:1

a:4

r:1

v:1

n:2

**9)** Print the following pattern:

**Input:** 5

**Output:**

1

2 6

3 7 10

4 8 11 13

5 9 12 14 15

**10)** Print the following pattern:

**Input:** 5

**Output:**

0

101

21012

3210123

432101234

54321012345

**11)** Print the Following pattern..

**Input:** 4

**Output:**

1 2 3 4

8 7 6 5

9 10 11 12

16 15 14 13

**Condition:** With using only two loops and no conditional statements.

**12)** return the longest subset in the given binary string that has equal number of 0s and 1s.

**Input:** str

**String:** 100110101010100011

**Output:** 18

**13)** find the nearest palindrome number

**Input:** 104

**Ouput:** 101

**14)** reverse k elements in an array..

**Input:**

n: number of elements in an array.

Array elements

k: number of elements to reverse..

17

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

5

**Output:**

5 4 3 2 1 10 9 8 7 6 15 14 13 12 11 17 16

**15)** relationship predictor using flames..

FLAMES

F- Friend

L- Love

A- Affection

M- Marriage

E- Enemy

S- Sister

**Input:**

ajith

salini

**Output:**

Marriage

**11)** Morai ponnu finder

**Input:**

n: number of family members.

Person name, fathers name, mothers name, gender... for n members

str: person name to find the morrai poonu or morra paiyan

**Eg:**

13

ramesh ravi kavi male

ravi gopal deivathal male

kavi soundaran karunambal female

gopal venkat chitra male

deivathal valliammal rathinam female

uma gopal deivathal female

selvi gopal deivathal female

balaji soundaran karunambal male

karthi soundaran karunambal male

abi balaji prema female

maha vishwanathan uma female

kishore vishwanathan uma male

umesh karthi maheshwari male

**Output:**

ramesh

abi

maha

**12)** Console application – Billing system:

It should able to do the following tasks:

* customer list
* bill list
* item list
* add customer
* add item
* add bill
* display bill using the bill Id
* display bills of a customer using customer Id
* display the total amount of purchase by a customer using customer Id
* The application should be developed in such a way that the amount of an item may vary from person to person, due to personal reasons, but the change should not reflect in item list.
* Should use sructure...