

Started on	Tuesday, 13 May 2025, 3:12 PM
State	Finished
Completed on	Tuesday, 13 May 2025, 3:49 PM
Time taken	36 mins 25 secs
Grade	80.00 out of 100.00

Question 1

Correct

Mark 20.00 out of 20.00

Write a python program to implement pattern matching on the given string using Brute Force algorithm.

For example:

Test	Input	Result
BF(a1,a2)	abcaaaabbbbccabcbabdbcsbbbbnnn ccabcbba	12

Answer: (penalty regime: 0 %)

Reset answer

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```
def BF(s1,s2):  
  
    i = 0  
    j = 0  
    while(i < len(s1) and j < len(s2)):  
        if(s1[i] == s2[j]):  
            i += 1  
            j += 1  
        else:  
            i = i - j + 1  
            j = 0  
    if(j >= len(s2)):  
        return i - len(s2)  
    else:  
        return 0  
  
if __name__ == "__main__":  
    a1=input()
```

	Test	Input	Expected	Got	
✓	BF(a1,a2)	abcaaaabbbbccabcbabdbcsbbbbnnn ccabcbba	12	12	✓

Passed all tests! ✓

Correct

Marks for this submission: 20.00/20.00.

Question 2

Correct

Mark 20.00 out of 20.00

Write a python program to implement Boyer Moore Algorithm with Good Suffix heuristic to find pattern in given text string.

For example:

Input	Result
ABAAABAACD	pattern occurs at shift = 0
ABA	pattern occurs at shift = 4

Answer: (penalty regime: 0 %)

Reset answer

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```
def preprocess_strong_suffix(shift, bpos, pat, m):

    i = m
    j = m + 1
    bpos[i] = j
    while i > 0:
        while j <= m and pat[i - 1] != pat[j - 1]:
            if shift[j] == 0:
                shift[j] = j - i
            j = bpos[j]
        i -= 1
        j -= 1
        bpos[i] = j

def preprocess_case2(shift, bpos, pat, m):
    j = bpos[0]
    for i in range(m + 1):
        if shift[i] == 0:
```

	Input	Expected	Got	
✓	ABAAABAACD ABA	pattern occurs at shift = 0 pattern occurs at shift = 4	pattern occurs at shift = 0 pattern occurs at shift = 4	✓
✓	SaveethaEngineering Saveetha veetha	pattern occurs at shift = 2 pattern occurs at shift = 22	pattern occurs at shift = 2 pattern occurs at shift = 22	✓

Passed all tests! ✓



Marks for this submission: 20.00/20.00.

Question 3

Not answered

Mark 0.00 out of 20.00

Write a Program for Implementing merge sort using python recursion.

For example:

Test	Input	Result
merge_sort(inp_arr)	8 11 31 7 41 101 56 77 2	Input Array: [11, 31, 7, 41, 101, 56, 77, 2] Sorted Array: [2, 7, 11, 31, 41, 56, 77, 101]
merge_sort(inp_arr)	5 61 2 41 80 9	Input Array: [61, 2, 41, 80, 9] Sorted Array: [2, 9, 41, 61, 80]

Answer: (penalty regime: 0 %)

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Question 4

Correct

Mark 20.00 out of 20.00

Create a python program to find the Hamiltonian path using Depth First Search for traversing the graph .

For example:

Test	Result
hamiltonian.findCycle()	['A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'A'] ['A', 'H', 'G', 'F', 'E', 'D', 'C', 'B', 'A']

Answer: (penalty regime: 0 %)

Reset answer

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```
class Hamiltonian:
    def __init__(self, start):
        self.start = start
        self.cycle = []
        self.hasCycle = False

    def findCycle(self):
        self.cycle.append(self.start)
        self.solve(self.start)

    def solve(self, vertex):
        if vertex == self.start and len(self.cycle) == N+1:
            self.hasCycle = True
            self.displayCycle()
            return
        for i in range(len(vertices)):
            if adjacencyM[vertex][i] == 1 and visited[i] == 0:
                nbr = i
```

	Test	Expected	Got	
✓	hamiltonian.findCycle()	['A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'A'] ['A', 'H', 'G', 'F', 'E', 'D', 'C', 'B', 'A']	['A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'A'] ['A', 'H', 'G', 'F', 'E', 'D', 'C', 'B', 'A']	✓

Passed all tests! ✓

Correct

Marks for this submission: 20.00/20.00.

Question 5

Correct

Mark 20.00 out of 20.00

Write a python program to implement knight tour problem using backtracking

For example:

Input	Result
5	Found a solution 01 20 11 14 03 10 15 02 19 12 21 24 13 04 07 16 09 06 23 18 25 22 17 08 05

Answer: (penalty regime: 0 %)

Reset answer

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```
BOARD_SIZE = int(input())
board = [[0 for i in range(BOARD_SIZE)] for j in range(BOARD_SIZE)]
STEPS = [[-1, 2], [1, 2], [-2, 1], [2, 1], [1, -2], [-1, -2], [2, -1], [-2, -1]]

def solve_knights_tour(x, y, step_count):

    if step_count > BOARD_SIZE * BOARD_SIZE:
        return True
    for step in STEPS:
        next_x = x + step[0]
        next_y = y + step[1]
        if is_safe(next_x, next_y):
            board[next_x][next_y] = step_count
            if solve_knights_tour(next_x, next_y, step_count + 1):
                return True
            board[next_x][next_y] = 0
    return False
```

	Input	Expected	Got	
✓	5	Found a solution 01 20 11 14 03 10 15 02 19 12 21 24 13 04 07 16 09 06 23 18 25 22 17 08 05	Found a solution 01 20 11 14 03 10 15 02 19 12 21 24 13 04 07 16 09 06 23 18 25 22 17 08 05	✓

Passed all tests! ✓

Submit

Marks for this submission: 20.00/20.00.