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The Joy of Computing using Python

WEEK-3

Programming Assignment 1

```
r = int(input())
c = int(input())
matrix = []
for in range(r):
  row = list(map(int, input().split()))
  matrix.append(row)
saddle point exists = 0
for i in range(r):
  min row value = min(matrix[i])
  min_index = matrix[i].index(min_row_value)
  is saddle point = True
  for j in range(r):
     if matrix[j][min_index] > min_row_value:
       is_saddle_point = False
       break
  if is saddle point:
     saddle point exists = 1
     break
print(saddle point exists)
```

Programming Assignment 2

```
r = int(input())
c = int(input())
matrix = []
for _ in range(r):
  row = list(map(int, input().split()))
  matrix.append(row)
scalar = int(input())
transpose_matrix = []
for j in range(c):
  transpose row = []
  for i in range(r):
     transpose row.append(matrix[i][j])
  transpose matrix.append(transpose row)
result matrix = []
for i in range(c):
  result_row = []
  for j in range(r):
     result row.append(transpose matrix[i][j] * scalar)
  result matrix.append(result row)
for row in result matrix:
  print(' '.join(map(str, row)))
```

Programming Assignment 3

```
r = int(input())
matrix = []
for _ in range(r):
  row = list(map(int, input().split()))
  matrix.append(row)
is_skew_symmetric = True
for i in range(r):
  for j in range(r):
     if matrix[i][j] != -matrix[j][i]:
       is_skew_symmetric = False
       break
  if not is_skew_symmetric:
     break
if is_skew_symmetric:
  print(1)
else:
  print(0)
```