Matrix

September 25, 2023

1 Addition of 2 matrices

[6]:
```
x=[[12,7,3],
  [4,5,6],
  [7,8,9]]
y=[[5,8,1],
  [6,7,3],
  [4,5,9]]
res=[[0,0,0],
    [0,0,0],
    [0,0,0]]
for i in range(len(x)):
    for j in range(len(x[0])):
        res[i][j]=x[i][j]+y[i][j]
for k in res:
    print(k)
```

```
enter a matrix[[12,7,3],[4,5,6],[7,8,9]]
[17, 15, 4]
[10, 12, 9]
[11, 13, 18]
```

2 Transpose of a matrix

[13]:
```
x=[[12,7],
   [4,9],
   [13,3]]
res=[[0,0,0],
  [0,0,0]]
for i in range(len(x)):
    for j in range(len(x[0])):
        res[j][i]=x[i][j]
for k in res:
    print(k)
```

```
[12, 4, 13]
[7, 9, 3]
```

3 Subtraction of 2 Matrices

[1]:
```
x=[[12,5,1],
   [7,11,6],
   [10,6,10]]
y=[[5,2,1],
   [6,7,3],
   [4,5,9]]
res=[[0,0,0],
     [0,0,0],
     [0,0,0]]
for i in range(len(x)):
    for j in range(len(x[0])):
        res[i][j]=x[i][j]-y[i][j]
for k in res:
    print(k)
```

```
[7, 3, 0]
[1, 4, 3]
[6, 1, 1]
```

4 Multiply 2 Matrices

[2]:
```
x=[[12,7,3],
   [4,5,6],
   [7,8,9]]
y=[[5,8,1,2],
   [6,7,3,0],
   [4,5,9,1]]
res=[[0,0,0,0],
     [0,0,0,0],
     [0,0,0,0]]
for i in range(len(x)):
    for j in range(len(y[0])):
        for k in range(len(y)):
            res[i][j]+=x[i][k]*y[k][j]
for a in res:
    print(a)
```

```
[114, 160, 60, 27]
[74, 97, 73, 14]
[119, 157, 112, 23]
```

[ ]: