

1. Write a Python Program to Add Two Matrices?

```
X = [[12,7,3],  
     [4 ,5,6],  
     [7 ,8,9]]
```

```
Y = [[5,8,1],  
     [6,7,3],  
     [4,5,9]]
```

```
result = [[0,0,0],  
          [0,0,0],  
          [0,0,0]]
```

```
# iterate through rows  
for i in range(len(X)):  
    # iterate through columns  
    for j in range(len(X[0])):  
        result[i][j] = X[i][j] + Y[i][j]
```

```
for r in result:  
    print(r)
```

2. Write a Python Program to Multiply Two Matrices?

```
# 3x3 matrix  
X = [[12,7,3],  
     [4 ,5,6],  
     [7 ,8,9]]
```

```
# 3x4 matrix  
Y = [[5,8,1,2],  
     [6,7,3,0],  
     [4,5,9,1]]
```

```
# result is 3x4  
result = [[0,0,0,0],  
          [0,0,0,0],  
          [0,0,0,0]]
```

```
# iterate through rows of X  
for i in range(len(X)):  
    # iterate through columns of Y  
    for j in range(len(Y[0])):  
        # iterate through rows of Y  
        for k in range(len(Y)):  
            result[i][j] += X[i][k] * Y[k][j]
```

```
for r in result:  
    print(r)
```

3. Write a Python Program to Transpose a Matrix?

Program to transpose a matrix using a nested loop

```
X = [[12,7],  
     [4 ,5],  
     [3 ,8]]
```

```
result = [[0,0,0],  
          [0,0,0]]
```

```
# iterate through rows  
for i in range(len(X)):  
    # iterate through columns  
    for j in range(len(X[0])):  
        result[j][i] = X[i][j]
```

```
for r in result:  
    print(r)
```

4. Write a Python Program to Sort Words in Alphabetic Order?

Program to sort alphabetically the words from a string provided by the user

```
my_str = "Hello this Is an Example With cased letters"
```

```
# To take input from the user  
#my_str = input("Enter a string: ")
```

```
# breakdown the string into a list of words  
words = [word.lower() for word in my_str.split()]
```

```
# sort the list  
words.sort()
```

```
# display the sorted words
```

```
print("The sorted words are:")  
for a word in words:  
    print(word)
```

5. Write a Python Program to Remove Punctuation From a String?

define punctuation

```
punctuations = '''!()-[]{};:'"\.,<>./?@#$$%^&* _~'''
```

```
my_str = "Hello!!!, he said ---and went."
```

```
# To take input from the user
# my_str = input("Enter a string: ")

# remove punctuation from the string
no_punct = ""
for char in my_str:
    if char not in punctuations:
        no_punct = no_punct + char

# display the unpunctuated string
print(no_punct)
```