

Python Basic Programming Assignment 8

1. Write a Python Program to Add Two Matrices?

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```
[5]: X = [[1,2,3],
          [4,5,6],
          [7,8,9]]

Y = [[9,8,3],
      [3,5,5],
      [8,2,2]]

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]

print('result is :')
for r in result:
    print(r)

result is :
[10, 10, 6]
[7, 10, 11]
[15, 10, 11]
```

2. Write a Python Program to Multiply Two Matrices?

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```
[7]: # Program to multiply two matrices using nested loops
```

```
# 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]

print('result is :')

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

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

3. Write a Python Program to Transpose a Matrix?

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```
[6]: #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] ### rows = columns, columns = rows

for r in result:
    print(r)

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

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

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```
[5]: input_str = input("Enter a string: ")

# breakdown the string into a list of words
words = input_str.split()

# sort the list
words.sort()

print("The sorted words are:")
for word in words:
    print(word, end = ' ')

Enter a string: my name is arti dash
The sorted words are:
arti dash is my name
```

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

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

```
[9]: # defining the punctuations to be removed
punctuation = '~!@#$%^&*(){}[];:'",./?'"

# Taking Input from user with punctuation mark
input_str = input("Enter string with punctuation mark : ")
# removing punctuations from the input string using a for loop
# putting edited string in new_str
new_str = input_str
for char in input_str:
    if char in punctuation:
        new_str = new_str.replace(char, "") # take, replace and save in same place

# display the unpunctuated string
print('string with out punctuation mark :---> ', new_str)

Enter string with punctuation mark : arti@dash%1234...
string with out punctuation mark :---> artidash1234
```