

Algorithms & Data Structures

Lab 1 (Input, Processing and Output)

EX1:

```
# Write Python code to print your name,  
# department and university  
print('Omar Haitham')  
print('Software engineering')  
print('Mosul University')
```

EX2:

```
# Python code to differentiate between  
# single and double quotations  
print("Don't fear!")  
print("I'm here!")  
print('Your assignment is to read "Hamlet" by  
tomorrow.')  
print("""I'm reading "Hamlet" tonight.""")  
print("""One  
Two  
Three""")
```

EX3:

```
# Create variables to reference two strings.  
first_name = 'John'  
last_name = 'Smith'  
print(first_name, last_name)
```

EX4:

```
# Get the user's first name.  
first_name = input('Enter your first name: ')  
# Get the user's last name.  
last_name = input('Enter your last name: ')  
# Print a greeting to the user.  
print('Hello', first_name, last_name)
```

EX5:

```
# Write Python code to convert time in seconds  
# to hours, minutes and seconds  
# Get a number of seconds from the user.  
total_seconds = float(input('Enter a number of  
seconds: '))  
# Get the number of hours.  
hours = total_seconds // 3600  
# Get the number of remaining minutes.  
minutes = (total_seconds // 60) % 60  
# Get the number of remaining seconds.  
seconds = total_seconds % 60  
# Display the results.  
print('Here is the time in hours, minutes, and  
seconds:')  
print('Hours:', hours)  
print('Minutes:', minutes)  
print('Seconds:', seconds)
```

EX6:

```
# Get the user's name, age, and income.  
name = input('What is your name? ')  
age = int(input('What is your age? '))  
income = float(input('What is your income? '))  
# Display the data.  
print('Here is the data you entered:')  
print('Name:', name)  
print('Age:', age)  
print('Income:', income)
```

EX7:

```
# More about data output  
print('One', end=' ')  
print('Two', end=' ')  
print('Three')  
print('One', 'Two', 'Three', sep='')  
print('One', 'Two', 'Three', sep='*')  
print('One', 'Two', 'Three', sep='~~~')
```

EX8:

Escape Characters

```
print('Mon\tTues\tWed')
print('Thur\tFri\tSat')
print("Your assignment is to read \"Hamlet\" by tomorrow.")
print('I\'m ready to begin.')
print('The path is C:\\temp\\data.')
print('Enter the amount of ' +
'sales for each day and ' +
'press Enter.')
```