Module 2: Sequences and File Operations

Assignment Solution

1. Correct the program given below.

```
total = raw_input('What is the total amount for your online shopping?')
country = raw_input('Shipping within the US or Canada?')
if country == "US":
   if total <= "50":
      print "Shipping Costs $6.00"
   elif total <= "100":
         print "Shipping Costs $9.00"
   elif total <= "150":
         print "Shipping Costs $12.00"
   else:
      print "FREE"
if country == "Canada":
   if total <= "50":
      print "Shipping Costs $8.00"
   elif total <= "100":
      print "Shipping Costs $12.00"
   elif total <= "150":
      print "Shipping Costs $15.00"
   else:
      print "FREE"
```

Solution

1. Use integer from raw_input, not string. use int().

2. comparison values like 50, 100, 150, ... also should be integer

```
total = int(raw_input('What is the total amount for your online shopping?'))
country = raw_input('Shipping within the US or Canada?')
if country == "US":
    if total <= 50:
        print "Shipping Costs $6.00"
    elif total <= 100:
            print "Shipping Costs $9.00"
    elif total <= 150:
            print "Shipping Costs $12.00"
    else:
        print "FREE"
if country == "Canada":
    if total <= 50:
        print "Shipping Costs $8.00"
    elif total <= 100:
        print "Shipping Costs $12.00"
    elif total <= 150:
        print "Shipping Costs $15.00"
    else:
        print "FREE"
```

2. Write a program that uses raw_input to prompt a user for their name and then welcomes them.

Example: Enter your name: Chuck

Hello Chuck

Solution

```
inp=raw_input('Enter your name:')
Print “Hello” + str(inp)
```

3. Write a program which prompts the user for a Fahrenheit temperature, convert the temperature to Celsius and print out the converted temperature.

Solution


```
inp = raw_input('Enter Fahrenheit Temperature:')
fahr = float(inp)
cel = (fahr - 32.0) * 5.0 / 9.0
print cel
```

4. Write a program to prompt the user for hours and rate per hour to compute gross pay.

Example: Enter Hours: 35

Enter Rate: 2.75

Pay: 96.25

Solution

```
>>> hours=float(input('Enter Hours:'))
Enter Hours:35
>>> rate=float(input('Enter Rate:'))
Enter Rate:2.75
>>> pay=float(hours)*float(rate)
>>> print("Pay:",pay)
Pay: 96.25
```


5. Write a for loop that prints all elements of a list and their position in the list.

a = [4,7,3,2,5,9]

Solution

```
>>> a = [4,7,3,2,5,9]
>>> for item in a:
        print(str(item) + " is at position " + str(a.index(item) + 1))
```

Output:

4 is at position 1

7 is at position 2

3 is at position 3

2 is at position 4

5 is at position 5

9 is at position 6

6. Write a program which should create a dictionary of key:values.

'A':1 'B':2 'C':3 . . . . 'Z':26 [Use dictionary comprehension]

Solution

```
>>> theDict = {chr(y):y - 64 for y in range(65, 91)}
>>> print theDict
```

Output:

{'A': 1, 'C': 3, 'B': 2, 'E': 5, 'D': 4, 'G': 7,
'F': 6, 'I': 9, 'H': 8, 'K': 11, 'J': 10, 'M': 13,
'L': 12, 'O': 15, 'N': 14, 'Q': 17, 'P': 16,
'S': 19, 'R': 18, 'U': 21, 'T': 20, 'W': 23,
'V': 22, 'Y': 25, 'X': 24, 'Z': 26}

7. Write a program to reverse/inverse key:value like below.

dict1 = { 'a': 1, 'b':2 }

Expected result : dict2 = { 1: 'a', 2: 'b' }

Solution

```
>>> dict1 = { 'a': 1, 'b':2 }
>>> dict2 = {v:k for k, v in dict1.items()}
>>> print(dict2)
```

Output:

{1: 'a', 2: 'b'}

8. Using given list L = ['a', 'b', 'c', 'd'] create a dictionary of key:values.

Expected result {'a': 1, 'c': 3, 'b': 2, 'd': 4} [Hint: Use Enumerate function]

Solution

```
>>> L = ['a', 'b', 'c', 'd']
>>> my_dict = {item : index+1 for index, item in enumerate(L)}
>>> print(my_dict)
```

Output:

{'a': 1, 'c': 3, 'b': 2, 'd': 4}

9. Write a program to prompt for a score between 0.0 and 1.0. If the score is out of range print an error. If the score is between 0.0 and 1.0, print a grade using the following table:

Score	Grade
>= 0.9	A
>= 0.8	B
>= 0.7	C
>= 0.6	D
< 0.6	FAIL

Enter score: 0.95

A

Enter score: 11.5

Bad score

Enter score: 10.0

Bad score

Enter score: 0.75

C

Enter score: 0.5

FAIL

Solution

```
>>>def score():
        score = float(input("Enter the score:"))
        if score >=0.9 and score <=1.0:
                print('A')
        if score >=0.8 and score <=0.9:
                print('B')
        if score >=0.7 and score <=0.8:
                print('C')
        if score >=0.6 and score <=0.7:
                print('D')
        if score <0.6:
                print('FAIL')
        else:
                print('Bad score')


>>> score()
Enter the score:0.95
A
>>> score()
Enter the score:11.5
Bad score
>>> score()
Enter the score: 10.0
```

```
Bad score


>>> score()
Enter the score:0.75
C
>>> score()
Enter the score:0.5
FAIL
```