

# Module 3 Assignment Solution

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## Welcome to our third assignment!

This assignment is about testing your understanding of flow control: branching.

We are going to create some simple programs using these tools. Are you ready? Let's get started!

You will find some small tasks in sections below. You should use `input()` to get the user to enter the information and use `print()` to print the information on the screen. At this moment, we can assume users will follow instructions carefully - they will enter the valid inputs as required.

## What day is today?

###Instruction: Write a program that asks the user for a number in the range of 1 through 7. The program should display the corresponding day of the week, where

- 1 = Monday,
- 2 = Tuesday,
- 3 = Wednesday,
- 4 = Thursday,
- 5 = Friday,
- 6 = Saturday, and
- 7 = Sunday
- all other value entered = ERROR

```
day = input('What day is today? 1 - 7:')
if day == '1':
    print('Monday')
elif day == '2':
    print('Tuesday')
elif day == '3':
    print('Wednesday')
elif day == '4':
    print('Thursday')
elif day == '5':
    print('Friday')
elif day == '6':
    print('Saturday')
elif day == '7':
    print('Sunday')
else:
    print('ERROR')
```

What day is today? 1 - 7:4  
Thursday

# Tax Calculator

###Instruction: You are going to program a simple tax calculator.

step1: Ask the user to enter the gross income of year 2022.

step2: Calculate the tax based on following formula:

1. Less than \$100,000, one pays just 1%
2. More than \$100,000 one pays 5%
3. More than \$500,000 then one pays 5% tax on the first 500,000 and 2 cents for every dollar above 500,000

step3: Print the tax amount on the screen.

```

income = float(input('What is the gross income of year 2022? '))
if income < 100000:
    tax = income * 0.01
elif income < 500000:
    tax = income * 0.05
else:
    tax = 500000 * 0.05 + 0.02 * (income - 500000)

print("The tax is", tax)

```

What is the gross income of year 2022? 600000  
The tax is 27000.0

## A Simple Calculator

###Instruction: You are going to program a super simple Calcualtor.

step1: Ask the user to enter the first number, store it in x

step2: Ask the user to enter the second number, store it in y

step3: Ask the user to enter the operator, store it in p

step4: Calculate the result of x p y.

For example, if the user entered 2, 3, and +, you should print 2.0 + 3.0 = 5.0 on the screen

```

x = float(input('Enter the first number: '))
y = float(input('Enter the second number: '))
operator = input('Please enter the operator (one of +, -, *, /)')
if operator == '+':
    print(x,operator,y,'=',x + y)
elif operator == '-':
    print(x,operator,y,'=',x - y)
elif operator == '*':
    print(x,operator,y,'=',x * y)
elif operator == '/':
    print(x,operator,y,'=',x / y)

```

Enter the first number: 3  
Enter the second number: 4  
Please enter the operator (one of +, -, \*, /)+  
3.0 + 4.0 = 7.0

# Taxi Fare Calculator

###Instruction: You are going to program a simple Calculator for a taxi.

step1: Ask the driver to enter total miles, store it in m

step2: Calculate the fare based on the formular

- if  $m < 10$ , fare is \$5
- if  $10 \leq m < 20$ , fare is \$5 plus \$1 for every mile beyond 10.
- if  $m \geq 20$ , fare is \$5 plus \$1.5 for every mile beyond 10

step3: print the fare.

```
m = float(input('Enter the total miles: '))
if m < 10:
    fare = 5
elif m < 20:
    fare = 5 + (m - 10)
else:
    fare = 5 + 1.5 * (m - 10)

print('The fare is: ', fare)
```

Enter the total miles: 12

The fare is: 7.0

# Flash Shipping charges

###Instruction: You are going to program a shipping charge calculator for a deliver company - Flash Shipping.

The rate of delivery is as below

Weight of Package	Domestic Rate Per Pound	International Rate Per Pound
2 lbs or less	\$1.5	\$5.0
More than 2 lbs but no more than 6 lbs	\$2.5	\$7.0
Morethan 6 lbs but no more than 20 lbs	\$3.5	\$10.0
More than 20 lbs	\$5.0	\$15.0

step1: Ask the user to enter the weight of the package, and the destination (domistic or international)

step2: Calculate the shipping charge based on the rate

step3: print the charge.

```
weight = float(input('Enter the weight of the package: '))
destination = input('Is the destination domestic or international? (Enter domestic or inte
if destination == 'domestic':
    if weight <= 2:
        charge = 1.5 * weight
    elif weight <= 6:
        charge = 2.5 * weight
    elif weight <= 20:
        charge = 3.5 * weight
    else:
        charge = 5.0 * weight
elif destination == 'international':
    if weight <= 2:
        charge = 5.0 * weight
    elif weight <= 6:
        charge = 7.0 * weight
    elif weight <= 20:
        charge = 10.0 * weight
    else:
        charge = 15.0 * weight

print('The charge is:', charge)
```

Enter the weight of the package: 36

Is the destination domestic or international? (Enter domestic or international)? domestic

The charge is: 180.0

**Congratulations! You finished this Assignment and completed Module 3!**