Session 3 Solutions

Exercise 3.1

```
price = input('How much is a burger? ')

within_budget = float(price) <= 10.00

print('Burger is within budget: {}'.format(within_budget))
```

Exercise 3.2

```
price = input('How much is a burger? ')
vegetarian = input('Is there a vegetarian option? (y/n) ')

within_budget = float(price) <= 10.00
has_vegetarian = vegetarian == 'y'

is_good_choice = within_budget and has_vegetarian

print('Restaurant meets criteria: {}'.format(is_good_choice))
```

Exercise 3.3

```
price = input('How much is a burger? ')
vegetarian = input('Is there a vegetarian option? (y/n) ')

within_budget = float(price) <= 10.00
has_vegetarian = vegetarian == 'y'

is_good_choice = within_budget and has_vegetarian

if is_good_choice:
    print('This restaurant is a great choice!')

if not is_good_choice:
    print('Probably not a good idea')
```

Exercise 3.4

```
meal_price = float(input('How much did the meal cost? '))

discount_choice = input('Do you have a discount? y/n ')
discount_applicable = discount_choice == 'y'

if discount_applicable:
    meal_price = meal_price * 0.9
    print('Discount applied')
else:
    print('No discount')

print('Total cost: {}'.format(meal_price))
```

Exercise 3.5

```
temperature = float(input('What is the temperature of the oven? '))

if temperature > 200:
    print('The oven is too hot')
elif temperature < 150:
    print('The oven is too cold')
elif temperature == 180:
    print('The oven is at the perfect temperature')
else:
    print('The temperature is close enough')
```

Exercise 3.6

```
import random

def flip_coin():
    random_number = random.randint(1, 2)
    if random_number == 1:
        side = 'heads'
```

```
    else:
        side = 'tails'
    return side

choice = input('heads or tails: ')
result = flip_coin()

print('The coin landed on {}'.format(result))

if choice == result:
    print('You win!')
else:
    print('You lose!')
```

Exercise 3.7

```
import random

def random_choice():
    choice_number = random.randint(1, 3)

    if choice_number == 1:
        choice = 'rock'
    elif choice_number == 2:
        choice = 'scissors'
    else:
        choice = 'paper'

    return choice

my_choice = input('Choose rock, scissors or paper: ')
opponent_choice = random_choice()

print('Your opponent chose {}'.format(opponent_choice))

if my_choice == 'rock' and opponent_choice == 'scissors':
    print('You win!')
elif my_choice == 'scissors' and opponent_choice == 'paper':
    print('You win!')
```

```
elif my_choice == 'paper' and opponent_choice == 'rock':
    print('You win!')
elif my_choice == opponent_choice:
    print('Draw!')
else:
    print('You lose!')
```

Exercise 3.8

```
import random


def colour():
    random_number = random.randint(1, 2)

    if random_number == 1:
        colour = 'red'
    else:
        colour = 'black'

    return colour

bet = input('Place a bet: ')
colour_choice = input('Choose a colour (red, black): ')
number_choice = input('Choose a number (1-100): ')

random_number = random.randint(1, 100)
random_colour = colour()

print('The result was {} {}'.format(random_number, random_colour))

if colour_choice == random_colour and number_choice != random_number:
    print('You win {}'.format(bet))
elif number_choice == random_number and colour_choice != random_colour:
    winnings = bet * 2
    print('You win {}'.format(winnings))
elif number_choice == random_number and colour_choice == random_colour:
    winnings = bet * 100
```

```
    print('You win {}'.format(winnings))
else:
    print('You lost your money')
```