Lecture 3 Programming Solutions

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[1]: # Murat M. Tunc
     # Tilburg University
     # Computer Skills
     # Lecture 3 - Solutions to Programming Exercises
     # November 2022
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[2]: # In-class Exercise 1

     import random

     # Step 1: Randomly generate two numbers

     number1 = random.randint (0, 9)
     number2 = random.randint (0, 9)

     # Step 2: Display the question and read in the answer

     print("What is", number1, "+", number2, "?")

     answer = int ( input("Please type the answer and press Enter:"))

     # Step 3: Check whether the answer is correct or not

     if answer == number1 + number2:
         print("Your answer is correct!")
     else:
         print("Your answer is wrong!")
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What is 5 + 3 ?
Please type the answer and press Enter:8
Your answer is correct!
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[3]: # In-class Exercise 2

     # Step 1: Read in the day of the week from the user

     dayOfTheWeek = int(input("Please input the day of the week \
     (1 for Monday, ..., 7 for Sunday) and press Enter: "))
```

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# Step 2: Check whether it is a weekday or a weekend

if dayOfTheWeek <= 5 and dayOfTheWeek >= 1:
    print("It's a weekday!")
elif dayOfTheWeek == 6 or dayOfTheWeek == 7:
    print("It's a weekend!")
else:
    print("Invalid input!")
```

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Please input the day of the week (1 for Monday, …, 7 for Sunday) and press
Enter: 5
It's a weekday!
```

[4]:
```python
# In-class Exercise 3

# Step 1: Read in the year
year = int( input ("Please input the year and press Enter:"))

# Step 2: Check whether the year is a leap year

if year % 400 == 0 or (year % 4 == 0 and not year % 100 == 0):
    print("It's a leap year!")
else:
    print("It's not a leap year!")
```

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Please input the year and press Enter:1996
It's a leap year!
```

[5]:
```python
# Practice Exercise 1

# Step 1: Read in the IMDB rating and metascore

IMDBRating = float(input("Please input IMDB rating of a movie (0 to 10) and␣
 ↪press Enter:"))

metascore = int(input("Please input IMDB rating of a movie (0 to 100 - integer)␣
 ↪and press Enter:"))

# Step 2: Recommend the movie if the rating > 7.0 and metascore > 60

if IMDBRating > 7.0 and metascore > 60:
    print("This movie is recommended to watch!")
else:
    print("This movie is not recommended to watch!")
```

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Please input IMDB rating of a movie (0 to 10) and press Enter:7.4
Please input IMDB rating of a movie (0 to 100 - integer) and press Enter:53
This movie is not recommended to watch!
```

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[6]: # Practice Exercise 2

     # Step 1: Read in the day, month and year

     print("Give me a beer please!")

     print("Can I see an ID?")

     dayOfBirth = int(input("Please input the day of your birthday and press Enter:
     ↪"))

     monthOfBirth = int(input("Please input the month of your birthday and press␣
     ↪Enter:"))

     yearOfBirth = int(input("Please input the year of your birthday and press Enter:
     ↪"))

     # Step 2: Check whether the user can legally purchase beer in US

     if yearOfBirth < 2000 or (yearOfBirth == 2000 and monthOfBirth < 11) or \
         (yearOfBirth == 2000 and monthOfBirth == 11 and dayOfBirth <= 23):
         print("Here is your beer!")
     else:
         print("I'm sorry, I cannot sell you a beer!")
```

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Give me a beer please!
Can I see an ID?
Please input the day of your birthday and press Enter:30
Please input the month of your birthday and press Enter:06
Please input the year of your birthday and press Enter:1990
Here is your beer!
```

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