

Exercise 1.1: Variables, Expressions, Statements and Conditional Execution

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Part 1: Variables, Expressions, and Statements

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

```
name = input("Name: ")
print("Hello, " + name + ". Welcome!")
```

```
Name: Six Seven
Hello, Six Seven. Welcome!
```

Exercise 3: Write a program to prompt the user for hours and rate per hour to compute gross pay.

```
hours = int(input("Hours: "))
rate = float(input("Rate: "))
pay = round(hours * rate)
pay
```

```
Hours: 67
Rate: 21
1407
```

Exercise 4: Assume that we execute the following assignment statements:

width = 17

height = 12.0

For each of the following expressions, write the value of the expression and the type (of the value of the expression).

1.
width = 17
height = 12.0
print(width // 2)
type(width // 2)

8
int

2.
width = 17
height = 12.0
print(width/2.0)
type(width/2.0)

8.5
float

3.
width = 17
height = 12.0
print(height/3)
type(height/3)

4.0
float

4.
print(1 + 2 * 5)

11

Exercise 5: Write a program which prompts the user for a Celsius temperature, convert the temperature to Fahrenheit, and print out the converted temperature.

```
inp = input("Enter Celsius Temperature: ")
cel = float(inp)
fahr = (cel * 9/5) + 32
print(fahr)
```

```
Enter Celsius Temperature: 27
80.6
```

Part 2: Conditional Execution

Exercise 1: Rewrite your pay computation to give the employee 1.5 times the hourly rate for hours worked above 40 hours.

```
hours = int(input("Hours: "))
rate = float(input("Rate: "))
if hours>40:
    print(round(hours * rate * 1.5))
else:
    print(round(hours * rate))
```

```
Hours: 17
Rate: 29
493
```

Exercise 2: Rewrite your pay program using try and except so that your program handles non-numeric input gracefully by printing a message and exiting the program. The following shows two executions of the program:

```
hours = input("Hours: ")
try:
```

```
hours = int(hours)
rate = float(input("Rate: "))
if hours>40:
    print(round(hours * rate * 1.5))
else:
    print(round(hours * rate))
except:
    print("Error, please enter numeric input.")
```

```
Hours: 67
Rate: eight
Error, please enter numeric input.
```

```
hours = input("Hours: ")
try:
    hours = int(hours)
    rate = float(input("Rate: "))
    if hours>40:
        print(round(hours * rate * 1.5))
    else:
        print(round(hours * rate))
except:
    print("Error, please enter numeric input.")
```

```
Hours: 13
Rate: five
Error, please enter numeric input.
```

Exercise 3: Write a program to prompt for a score between 0.0 and 1.0. If the score is out of range, print an error message. 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	F

```
score = float(input("Score: "))
if score>=0.9:
    print("Grade: A")
elif score>=0.8:
    print("Grade: B")
elif score>=0.7:
    print("Grade: C")
elif score>=0.6:
    print("Grade: D")
elif score<0.6:
    print("Grade: F")
```

Score: 0.75
Grade: C

```
score = float(input("Score: "))
if score>=0.9:
    print("Grade: A")
elif score>=0.8:
    print("Grade: B")
elif score>=0.7:
    print("Grade: C")
elif score>=0.6:
    print("Grade: D")
elif score<0.6:
    print("Grade: F")
```

Score: 1
Grade: A

```
score = float(input("Score: "))
if score>=0.9:
    print("Grade: A")
elif score>=0.8:
    print("Grade: B")
elif score>=0.7:
```

```
print("Grade: C")
elif score>=0.6:
    print("Grade: D")
elif score<0.6:
    print("Grade: F")
```

Score: 0.83

Grade: B

```
score = float(input("Score: "))
if score>=0.9:
    print("Grade: A")
elif score>=0.8:
    print("Grade: B")
elif score>=0.7:
    print("Grade: C")
elif score>=0.6:
    print("Grade: D")
elif score<0.6:
    print("Grade: F")
```

Score: 0.63

Grade: D

```
score = float(input("Score: "))
if score>=0.9:
    print("Grade: A")
elif score>=0.8:
    print("Grade: B")
elif score>=0.7:
    print("Grade: C")
elif score>=0.6:
    print("Grade: D")
elif score<0.6:
    print("Grade: F")
```

Score: 0.15

Grade: F

Start coding or generate with AI.