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Programming for All - Python

Review Exercises ( R3.1 - R3.5)

## REVIEW EXERCISES

• **R3.1** What is the value of each variable after the `if` statement?

**a.**
```
n = 1
k = 2
r = n
if k < n :
   r = k
```

**b.**
```
n = 1
k = 2
if n < k :
   r = k
else :
   r = k + n
```

**c.**
```
n = 1
k = 2
r = k
if r < k :
   n = r
else :
   k = n
```

**d.**
```
n = 1
k = 2
r = 3
if r < n + k :
   r = 2 * n
else :
   k = 2 * r
```

a.) n = 1, k = 2, r = 1

•• **R3.2** Explain the difference between

```
s = 0
if x > 0 :
   s = s + 1
if y > 0 :
   s = s + 1
```

and

```
s = 0
if x > 0 :
   s = s + 1
elif y > 0 :
   s = s + 1
```

R3.2- The difference is that one is using the elif instead of another if statement.

•• **R3.3** Find the errors in the following `if` statements.

**a.**
```
if x > 0 then
   print(x)
```

**b.**
```
if 1 + x > x ** sqrt(2) :
   y = y + x
```

**c.**
```
if x = 1 :
   y += 1
```

**d.**
```
xStr = input("Enter an integer value")
x = int(xStr)
if xStr.isdigit() :
   sum = sum + x
else :
   print("Bad input for x")
```

**e.**
```
letterGrade = "F"
if grade >= 90 :
   letterGrade = "A"
if grade >= 80 :
   letterGrade = "B"
if grade >= 70 :
   letterGrade = "C"
if grade >= 60 :
   letterGrade = "D"
```

a.) It has “then”

b.) It needs parenthesis

c.) Not sure

d.) The isdigit() method

e.) You can use the elif

• **R3.4** What do these code fragments print?

**a.**
```
n = 1
m = -1
if n < -m :
   print(n)
else :
   print(m)
```

**b.**
```
n = 1
m = -1
if -n >= m :
   print(n)
else :
   print(m)
```

**c.**
```
x = 0.0
y = 1.0
if abs(x - y) < 1 :
   print(x)
else :
   print(y)
```

**d.**
```
x = sqrt(2.0)
y = 2.0
if x * x == y :
   print(x)
else :
   print(y)
```

a.) -1

b.) 1

c.) 1.0

d.) 2.0

R3.5 - Suppose x and y are variables, each of which contains a number. Write a code fragment that sets y to x if x is positive and to 0 otherwise.

```
X = 5
Y = 2
If x > 0 :
    Y = x
Else :
   Y = 0
```