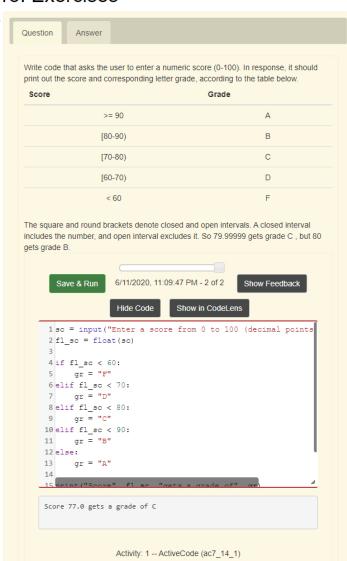
8.13. Exercises



8.12. Glossary">

Question A year is a leap year if it is divisible by 4. If the year can be evenly divided by 100, it is NOT a leap year, unless the year is also evenly divisible by 400. Then it is a leap year. Write code that asks the user to input a year and output True if it's a leap year, or False otherwise. Use if statements. 1944 2011 False 1986 False 1800 False 1900 False 2000 True 2056 True Above are some examples of what the output should be for various inputs.

.14. Chapter Assessment"

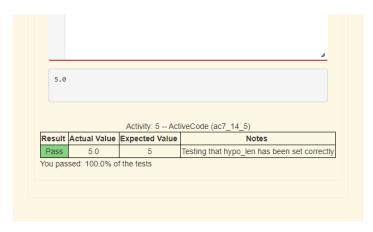




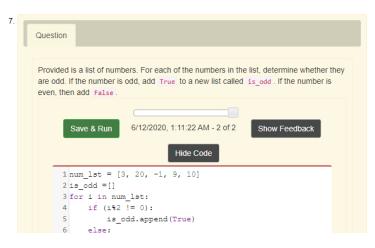
```
False
False
False
Activity: 3 -- ActiveCode (ac7_14_3)
```

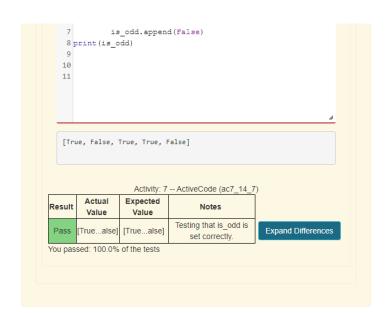
Question Give the logical opposites of these conditions, meaning an expression that would produce False whenever this expression produces True, and vice versa. You are not allowed to use the not operator. 1. a > b 2. a >= b 3. a >= 18 and day == 3 4. a >= 18 or day != 3 Save & Run 6/12/2020, 1:04:01 AM - 11 of 11 Show Feedback Hide Code Show in CodeLens 1 a = 18 2 b = 12 3 day = 34 print(a <= b) 5 print(a < b) 6 print (a<18 and day !=3) 7 print(a<18 or day !=3) 8 print(" ") 9 print(a > b) 10 print(a >= b) 11 print(a>=18 and day ==3) 12 print(a>=18 or day !=3) False False False False True True True True Activity: 4 -- ActiveCode (ac7_14_4)













Question Answer Discussion

Implement the calculator for the date of Easter.
The following algorithm computes the date for Easter Sunday for any year between 1900

```
to 2099.
Ask the user to enter a year. Compute the following:
       1. a = year % 19
       2. b = year % 4
       3. c = year % 7
       4. d = (19 * a + 24) % 30
       5. e = (2 * b + 4 * c + 6 * d + 5) \% 7
       6. dateofeaster = 22 + d + e
Special note: The algorithm can give a date in April. You will know that the date is in April
if the calculation gives you an answer greater than 31. (You'll need to adjust) Also, if the
year is one of four special years (1954, 1981, 2049, or 2076) then subtract 7 from the
date.
Your program should print an error message if the user provides a date that is out of
range.
                       6/12/2020, 1:29:09 PM - 6 of 6
                                                        Show Feedback
                       Hide Code
                                       Show in CodeLens
      1 year = input("Enter an year between 1900 to 2009:")
      2 year = int(year)
      3 spl_years = [1954,1981,2049,2076]
      4 if (year in spl_years):
            year -= 7
      6 print (year)
      7 a = year % 19
      9b = year % 4
     10
     11 c = year % 7
     12
     13 d = (19 * a + 24) % 30
    15 = (2 * h + 4 * c + 6 * d + 5) % 7
     43
                       Activity: 9 -- ActiveCode (ac7_14_9)
```

Question Get the user to enter some text and print out True if it's a palindrome, False otherwise. (Hint: Start by reversing the input string, and then use the == operator to compare two values to see if they are the same) Save & Run 6/12/2020, 12:48:21 PM - 5 of 5 Show Feedback Hide Code Show in CodeLens 1 x = input("Enter something:") 2 print(x[::-1]) 3 if (x == x[::-1]):4 print("True") 5 else: print("False") retal False Activity: 10 -- ActiveCode (ac7_14_10)

10.

11. condition-14-11: Write a program that will print out a greeting to each student in the list. This list should also keep track of how many students have been greeted and note that each time a new student has been greeted. When only one student has entered, the program should say "The first student has entered!". Afterwards, the program should say "There are {number here} students in the classroom!".

dent has entered". Afferwards, the program should say "Inere are {number here} students in e classroom!".

Drag from here

students = ["Jay", "Stacy", "Iman", "Trisha", "Ahmed", "Daniel", "Shadae", "Tosin", "Charlotte"]

num_students = 0

for student in students:

print("Welcome to class, " + student)
num_students += 1

if num_students += 1:
 print("The first student has entered!")

elif num_students > 1:
 print("There are " + str(num_students) + " students in the classroom!")

Check Reset

Perfect! It took you only one try to solve this. Great job!

Activity: 11 -- Parsons (pp7_14_11)

condition-14-12: Piece together a program so that it can successfully print out one print statement, given the value of x.

Drag from here

Drop blocks here

x = 16

if x > 10:

if x > 20:
 print("This is a large number!")

else:
 print("This is a pretty big number.")

Check Reset

Perfect! It took you only one try to solve this. Great job!

Activity: 12 - Parsons (pp7_14_12)

8.12. Glossary">

14. Chapter Assessment">

>