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CRYPTOLOGY – B KEERTHANA

**1. # The following line won't run because of a syntax error**

**print ("hi)**

* Corrected syntax error by adding the closing double quote

print ("hi")

**2. # Exercise 2**

**''' The following lines won't run properly, even if the syntax error in the line above is corrected, because of a run-time error '''**

**print (hello)**

* This will cause a Name Error because "hello" is not defined as a variable or string.

**3. # Display a string (greeting message) directly**

* print ("Hello, welcome to MSIS !")

**4. # Display the contents of a string variable**

* greeting = "Good Morning!"

print (greeting)

**5. # Display the string which contains single quotes**

**Ex: Indian's**

* print ("Indian's cultural heritage is rich and diverse.")

**6. # Display the string which contains Double Quotes**

**Ex: Students, "Welcome to SOIS".**

* print ('Students, "Welcome to SOIS".')

**6. Read two numbers in (user input) and store as num1 and num2, Calculate the sum, difference, product, Quotient, reminder, power**

* num1 = float (input ("Enter the first number: "))

num2 = float (input ("Enter the second number: "))

sum = num1 + num2

difference = num1 - num2

product = num1 \* num2

quotient = num1 / num2

remainder = num1 % num2

power = num1 \*\* num2

print ("Sum:", sum)

print ("Difference:", difference)

print ("Product:", product)

print ("Quotient:", quotient)

print ("Remainder:", remainder)

print ("Power:", power)

**7. check the value of num1 is integer or not?**

* num1 = float (input ("Enter a number: "))

is\_integer = num1.is\_integer()

print ("Is num1 an integer?", is\_integer)

**8. convert into integer**

* num1\_int = int (num1)

print ("num1 converted to integer:", num1\_int)

**9. Find the datatype for the variable num1 and num2.**

* print ("Data type of num1:", type(num1))

print ("Data type of num2:", type(num2))

**10. read the float value from the user and print the number rounded to 2 decimal places**

* float\_value = float (input ("Enter a float value: "))

print ("Rounded value:", round(float\_value, 2))

**11. read the float value from the user and print the absolute value**

* float\_value = float (input ("Enter a float value: "))

print ("Absolute value:", abs(float\_value))

**12. Store different type values in the variabale**

**String, Numeric, Complex list dictionary set tuple**

* string\_var = "Hello"

numeric\_var = 42

complex\_var = 3 + 4j

list\_var = [1, 2, 3]

dictionary\_var = {"key": "value"}

set\_var = {1, 2, 3}

tuple\_var = (1, 2, 3)

**13. Find the data type for the above variables**

* print ("Data type of string\_var:", type(string\_var))

print ("Data type of numeric\_var:", type(numeric\_var))

print ("Data type of complex\_var:", type(complex\_var))

print ("Data type of list\_var:", type(list\_var))

print ("Data type of dictionary\_var:", type(dictionary\_var))

print ("Data type of set\_var:", type(set\_var))

print ("Data type of tuple\_var:", type(tuple\_var))

**14. # Display the number of letters in the string**

**greeting = "Welcome to Python Programming"**

* greeting = "Welcome to Python Programming"

print ("Number of letters in the string:", len(greeting))

**15. read the first name and last name from the user and combine first name and last name. combine name and greeting message**

* first\_name = input ("Enter your first name: ")

last\_name = input ("Enter your last name: ")

full\_name = first\_name + " " + last\_name

greeting\_message = "Hello, " + full\_name + "! Welcome to Python programming."

print (greeting\_message)

**16. Display the string with space**

**Ex: firstname lastname**

* print (firstname + " " + lastname)

**17. Display first two characters from the name**

* print ("First two characters of the name:", fullname[:2])

**18. Display last three characters from the name**

* print ("Last three characters of the name:", full\_name[-3:])

**19. Display 3rd character to last character**

* print ("From 3rd to last character:", full\_name[2:])

**20. Display 3rd to 5th character**

* print ("3rd to 5th character:", full\_name[2:5])

**21. Create a list of food with two elements.**

* food = ["Pizza", "Burger"]

**22. Add one more to the food list using .append()**

* food.append("Pasta")

print ("Updated food list:", food)

**23. Add two more food strings to food using .extend()**

* food.extend(["Salad", "Ice Cream"])

print ("Updated food list:", food)

**24. Count total number of items in the list**

* total\_items = len(food)

print ("Total number of items in the food list:", total\_items)

**25. Print the first two items in food using slicing notation**

* print ("First two items:", food[:2])

**26. Print the last item in food using index notation**

* print ("Last item in the food list:", food[-1])

**27. Debug: Program is to check the given number is odd or even**

**number = input ("Enter a number: ")**

**x = str(number)/2**

**if x == 0**

**print ("The number is Even.")**

**else**

**print ("The number is Odd.")**

* number = int (input ("Enter a number: "))

if number % 2 == 0:

print ("The number is Even.")

else:

print ("The number is Odd.")

**28. Debug: Program is to convert centigrade to Fahrenheit**

**c = input ("Enter temperature in Centigrade: ")**

**f = 9\*(int (c)/5 +32**

**print ("Temperature in Fahrenheit is: ", f)**

* c = float (input ("Enter temperature in Centigrade: "))

f = 9 \* (c / 5) + 32

print ("Temperature in Fahrenheit is:", f)

**29. Debug:**

**int = int (input ("Enter the count of numbers: "))**

**i = 0**

**sum= 0**

**for i in range(count):**

**x = int (input ("Enter an integer: "))**

**sum = sum + x**

**avg = sum/count**

**print ("The average is: ", avg)**

* count = int (input ("Enter the count of numbers: "))

sum = 0

for i in range(count):

x = int (input ("Enter an integer: "))

sum = sum + x

avg = sum / count

print ("The average is:", avg)

**30. Prove: Strings are not mutable**

**Lists are mutable**

* # Strings are Immutable

string\_var = "Hello"

try:

string\_var[0] = "h"

except TypeError:

print ("Strings are immutable: Cannot change a string's content directly.")

# Lists are Mutable

list\_var = [1, 2, 3]

list\_var[0] = 4

print ("Lists are mutable: Modified list:", list\_var)