Concept 1:

A screenshot of a computer

Description automatically generated

Concept 2:

A screenshot of a computer

Description automatically generated

Concept 3:

A screenshot of a computer

Description automatically generated

Concept 4:

A screenshot of a computer

Description automatically generated

Concept 5:

A screenshot of a computer

Description automatically generated

Concept 6:

A screenshot of a computer

Description automatically generated

Concept 7:

A screenshot of a computer

Description automatically generated

Concept 8:

A screenshot of a computer

Description automatically generated

Concept 9:

A screenshot of a computer

Description automatically generated

Code:

"""

Brandon Trinkle

IFT 360

8/24/2024

"""

# Concept 1: Variables

integer\_var = 10

float\_var = 20.5

string\_var = "Hello, Python!"

print("Concept 1:")

print(integer\_var)

print(float\_var)

print(string\_var)

print("")

# Concept 2: Type Casting

print("Concept 2:")

string\_num = "17"

print("Before type casting:", string\_num)

int\_num = int(string\_num)

print("After type casting:", int\_num)

print("")

# Concept 3: Lists

print("Concept 3:")

numbers\_list = [1, 2, 3, 4, 5]

print(numbers\_list)

print(numbers\_list[2]) # Printing the third item in the list (index 2)

numbers\_list.append(6)

print(numbers\_list)

print("")

# Concept 4: For Loops

print("Concept 4:")

names\_list = ["Deo", "Alanna", "Brandon", "Cocoa", "Nova"]

for name in names\_list:

print(name)

names\_list.append("Mocha")

print("Length of the list:", len(names\_list))

print("")

# Concept 5: Comments

print("Concept 5:")

print("# This is a single-line comment")

print("''' This is a block comment. It can span multiple lines. '''")

print("")

# Concept 6: Dictionaries

print("Concept 6:")

phonebook = {"Brandon": "716-123-4567", "Alanna": "716-567-8901", "Deo": "702-466-1234"}

print(phonebook)

print(phonebook.keys())

print(phonebook.values())

print(phonebook.items())

phonebook["Raj"] = "716-941-6315"

print("Raj's Phone Number:", phonebook["Raj"])

print(phonebook)

del phonebook["Raj"]

print(phonebook)

for name in phonebook:

print("Name:", name)

for number in phonebook.values():

print("Phone Number:", number)

print("")

# Concept 7: File Handling

print("Concept 7:")

with open('C:\\Users\\Btrin\\Downloads\\names.txt', 'r') as file:

for line in file:

print(line.strip())

print("")

# Concept 8: Extracting Rows, Attributes from File

print("Concept 8:")

with open('C:\\Users\\Btrin\\Downloads\\names.txt', 'r') as file:

for line in file:

name, age = line.split()

age = int(age)

print("Age:", age)

print("")

# Concept 9: Pandas Data Frames

import pandas as pd

print("Concept 9:")

# Reading the file into a dataframe

df = pd.read\_csv('C:\\Users\\Btrin\\Downloads\\names.txt', sep="\t", header=None, names=["Name", "Age"])

# Finding the max and min age

max\_age = df["Age"].max()

min\_age = df["Age"].min()

print("Max Age:", max\_age)

print("Min Age:", min\_age)

# Extracting rows 2 & 3 using loc

extracted\_rows = df.loc[1:2]

print(extracted\_rows)