

```
1
2 def course():
3
4     print("A Comprehensive Guide
5
6     to Basic Python Concepts.")
7
8
9
10
11
12
13 course()
14
```

```
1  # Declare list of Course Contents
2  course_contents = [ "Commenting in Python",
3                      "Data Types",
4                      "Functions",
5                      "Variable Names",
6                      "Lists",
7                      "Modulus Operator",
8                      "Adding Items to Lists",
9                      "While Loops",
10                     "Importing Libraries",
11                     "User Input"
12 ]
```

```
1  #===== Comments In Python =====
2
3
4  # In Python, comments are used to explain code and make
5  # it more readable. Comments are ignored by the
6  # interpreter. The correct way to add a single-line
7  # comment is using the hash symbol (#).
8
9  # this is a Comment
10
11
12
13
14
```

```
1  #===== Data Types In Python =====
2
3  # Python supports various data types,
4  # including integers (int), floating-point
5  # numbers (float), and strings (str).
6  # When performing arithmetic operations,
7  # the result data type depends on the
8  # operands. For example, the sum of an
9  # integer and a float is a float:
10
11
12 result = 5 + 3.14 # result is a float with value 8.14
13
14
```

```
1  #===== Creating Functions In Python =====
2
3
4  # Functions in Python are defined using the
5  # def keyword, followed by the function name
6  # and parentheses. Here's an example of a
7  # simple function definition:
8
9
10 def function_name():
11     print("This is a function.")
12
13
14
```

```
1  #===== Valid Variable Names In Python =====
2
3
4  # Variable names in Python can contain
5  # letters, numbers, and underscores,
6  # but they cannot start with a number or
7  # contain special characters like hyphens.
8
9  # For example:
10
11  my_var = 10    # Valid
12  my-var = 10    # Invalid
13  ~~~~~
14
```

```
1  #===== Creating Lists In Python =====
2
3
4  # Lists in Python are ordered collections of
5  # items, and they can contain elements of
6  # different data types.
7  # A list is created using square brackets.
8
9  # For example:
10
11 my_list = [1, 2, 3]
12
13
14
```

```
1  #===== The Modulus Operator In Python =====
2
3
4  # The modulus operator (%) returns the
5  # remainder of a division.
6
7  # For example:
8
9
10 remainder = 10 % 3 # remainder is 1
11
12
13
14
```



```
1  #===== Adding Items To Lists In Python =====
2
3
4  # You can add an item to the
5  # end of a list using the
6  # append() method.
7
8  # For example:
9
10 my_list.append(4)
11
12
13
14
```

```
1  #===== While Loops In Python =====
2
3
4  # A while loop in Python executes
5  # a block of code as long as a
6  # condition is true.
7
8  # Here's an example of a while loop that
9  # continues until i is 5:
10
11  i = 0
12  while i < 5:
13      print(i)
14      i += 1
```

```
1  #===== Importing Libraries In Python =====
2
3
4  # Libraries in Python are imported using the
5  # import keyword, followed by the library's name.
6  # This allows you to access the functions and classes
7  # provided by the library.
8
9  # For example:
10
11 import math
12
13
14
```

```
1  #===== Reading User Input In Python =====
2
3
4  # The input() function is used to read input
5  # from the user in Python.
6  # You can store the user's input in a
7  # variable for further processing.
8
9  # For example:
10
11  name = input("Enter your name: ")
12
13  print("Hello, " + name + "!!")
14
```

```
1  #===== Course Complete =====
2
3  #===== Great Work! =====
4
5  # Congratulations on completing the
6  # Introduction to Python course!
7  # You've learned about fundamental concepts
8  # such as commenting, data types, functions,
9  # variable names, lists, loops, and more.
10
11 # You're now ready to take the exam on the
12 # Streamlit application.
13
14 # Good luck!
```