Completed_assignment_1.2_ANIL

August 31, 2025

Assignment_1

0.1 1. Syntax and Semantics

Question 1: Write a Python program to print "Hello, World!".

[2]:
```
print("Hello, World!")
```

```
Hello, World!
```

Question 2: Write a Python program that takes a user input and prints it.

[ ]:
```
a= input("Enter Any:")
print(a)
```

Question 3: Write a Python program to check if a number is positive, negative, or zero.

[ ]:
```
a = int(input("Enter a number to check : "))
if a==0:
    print("Number is Zero ")
elif a>0:
        print("Number is Positive ")
elif a<0:
        print("Number is Negitive ")
```

Question 4: Write a Python program to find the largest of three numbers.

[ ]:
```
a = int(input("First Number: "))
b = int(input("Second Number: "))
c = int(input("Third Number: "))
largest = max(a,b,c)
print("The Largest among three : " , largest)
```

Question 5: Write a Python program to calculate the factorial of a number.

[ ]:
```
value = int(input("Enter value to find its factorial :"))
factorial  = 1

if value < 0:
    print("There is no factorial for 0 and Negative ")
```

```
elif value == 0:
    print("The factorial of 0 is 1 ")
else:
    for i in range(1, value+1):
        factorial *= i

    print("The factorail of your value", value ,  "is ",factorial )
```

0.2 2. Variables and Data Types

Question 6: Create variables of different data types: integer, float, string, and boolean. Print their values and types.

[ ]:
```
# Integer
age = int(input("Enter your age: "))  # Convert input to integer
print("Value:", age)
print("Type:", type(age))

#float
height = float(input("Enter your height : "))
print("Value:", height)
print("Type:", type(height))

# String
name = input("Enter your name: ")  # No need to convert, input is already string
print("Value:", name)
print("Type:", type(name))

# Boolean
# User enters True or False (case-sensitive)
is_student = input("Are you a student? (True/False): ")
is_student = True if is_student == "True" else False
print("Value:", is_student)
print("Type:", type(is_student))
```

Question 7: Write a Python program to swap the values of two variables.

[2]:
```
values = [ 10 , 20 ]
a, b = values
print(a,b)
a ,b = b ,a
print (a,b )
```

```
10 20
20 10
```

Question 8: Write a Python program to convert Celsius to Fahrenheit.

[ ]:
```
celcius = float(input("Enter celcius to convert in fahrenheit : "))
fahrenheit = (celcius * 9/5) + 32
print("Fahrenheit of ",celcius," is : ", fahrenheit)
```

Question 9: Write a Python program to concatenate two strings.

[ ]:
```
first_name = str(input("Enter your first name : "))
last_name = str(input("Enter your last name : "))
print("Your full name : "+ first_name+" "+ last_name)
print("Your full name : ", first_name," ", last_name)
```

Question 10: Write a Python program to check if a variable is of a specific data type.

[ ]:
```
# print("Heyy ")

age = int(input("Enter your age  : "))
name = input("Enter yout name : ")
height = float(input("Enter yout height : "))
is_student = input("Are you student(True/False): ")

if is_student == "True":
    is_student = True
else:
    is_student = False
print("Is 'age' is integer? :", isinstance(age, int))
print("is 'name' is of string? ", isinstance(name, str))
print("Is 'hieght' i float ? : ", isinstance(height, float))
print("Is 'is_student' is boolean ? :" , isinstance(is_student, bool))
```

0.3 3. Basic Operators (Arithmetic, Comparison, Logical)

Question 11: Write a Python program to perform arithmetic operations: addition, subtraction, multiplication, and division.

[ ]:
```
a = float(input("Enter a value :"))
b = float(input("Enter another value :"))

#add
print("Addition :", a+b)
#substaction
print("Subtract b from a :", a-b)
#multiplication
print("Multiplication :" , a*b)
#division
print("Divide a by b : ", a/b)
```

Question 12: Write a Python program to demonstrate comparison operators: equal to, not equal

to, greater than, less than.

[ ]:
```
a = float(input("Enter a value :"))
b = float(input("Enter another(b) value :"))

print("Is a greater than b :" , a>b)
print("Is a lesser than b :", a<b)
print("Is a is equal to b :", a==b)
print("Is a is not equal to b :" , a!=b)
```

Question 13: Write a Python program to demonstrate logical operators: and, or, not.

[ ]:
```
a = True
b = False

print(" A AND B :", a and b )
print("A OR B :", a or b)
print("A not :" ,  not a)
print("B not : ", not b)
```

Question 14: Write a Python program to calculate the square of a number.

[ ]:
```
num = float(input("Enter number to find its square: "))
square = num*num
print("Square of ",num," is ",square)
```

Question 15: Write a Python program to check if a number is even or odd.

[ ]:
```
num = float(input("Enter num to check even or odd :"))
num = round(num)
if(num % 2 == 0):
    print("Entered number is Even ")
else:
    print("Entered number is Odd")
```

Question 16: Write a Python program to find the sum of the first n natural numbers.

[ ]:
```
limit = int(input("Enter the limit till you want to add: "))
result = 0

for i in range(1, limit + 1):
    result += i

print("Sum of natural numbers till", limit, "is:", result)
```

Question 17: Write a Python program to check if a year is a leap year.

[ ]:
```
year = int(input("Enter year :"))
if year %4 == 0 :
```

```
    print("Its leap year bruh!")
else:
    print("Not leap year!")
```

Question 18: Write a Python program to reverse a string.

[ ]:
```
a_string = input("Enter any string :")
rev_string = a_string[::-1]
print("Reversed :", rev_string)
```

Question 19: Write a Python program to check if a string is a palindrome.

[ ]:
```
a_string = input("Enter any string :")
a_string = a_string.lower()
rev_string = a_string[::-1]
# print("Reversed :", rev_string)
if a_string == rev_string :
    print("Entered String is Palindrome")
else:
    print("Entered string  is NOT palindrome")
```

Question 20: Write a Python program to sort a list of numbers in ascending order.

[4]:
```
numbers = [17, 14 , 11, 10, 7 ]
print("The numbers are : ", numbers )
sorted_num = sorted(numbers)
print("The numbers are : ", sorted_num )
```

```
The numbers are :  [17, 14, 11, 10, 7]
The numbers are :  [7, 10, 11, 14, 17]
```

[ ]:
```

```