Assignment 1

Python Fundamentals

Exercise 1

Write Python code that prints your name, student number and email address.

An example runs of the program:

Bob

ST1001

bob@gmail.com

Code and Result

```
# 1) Print name, student number, and email address
print("Bob")
print("ST1001")
print("bob@example.com")
```

```
Bob
ST1001
bob@example.com
```

Exercise 2

Write Python code that prints your name, student number and email address using escape sequences.

An example runs of the program:

Bob

ST1001

bob@gmail.com

Code and Result

```
# 2) Print name, student number, and email address using escape sequences
print("Bob\nST1001\nbob@example.com")
```

```
Bob
ST1001
bob@example.com
```

Exercise 3

Write Python code that add, subtract, multiply and divide the two numbers. You can use the two numbers 14 and 7. An example run of the program:

14 + 7 = 21

14 * 7 = 98

14 – 7 = 7

14 / 7 = 2

Code and Result

```
# 3) Add, subtract, multiply and divide two numbers
a=14
b=7
c=a+b
d=a-b
e=a*b
f=int(a/b)
print("14+7=",c)
print("14-7=",d)
print("14*7=",e)
print("14/7=",f)
```

```
14+7= 21
14-7= 7
14*7= 98
14/7= 2
```

Exercise 4

Write Python code that displays the numbers from 1 to 5 as steps.

An example runs of the program:

1

2

3

4

5

Code and Result

```
# 4) Displays the numbers from 1 to 5 as steps
steps = "1\n2\n3\n4\n5"
print(steps)
```

```
1
2
3
4
5
```

Exercise 5

Write Python code that outputs the following sentence (including the quotation marks and line break) to the screen:

An example runs of the program:

"SDK" stands for "Software Development Kit", whereas

"IDE" stands for "Integrated Development Environment".

Code and Result

```
# 5) Output sentence with quotation marks and line break
print("\"SDK\" stands for \"Software Development Kit\", whereas")
print("\"IDE\" stands for \"Integrated Development Environment\".")
```

```
"SDK" stands for "Software Development Kit", whereas
"IDE" stands for "Integrated Development Environment".
```

Exercise 6

Practice and check the output

print("python is an \"awesome\" language.")

print("python\n\t2023")

print('I\'m from Entri.\b')

print("\65")

print("\x65")

print("Entri", "2023", sep="\n")

print("Entri", "2023", sep="\b")

print("Entri", "2023", sep="*", end="\b\b\b\b")

Code and Result

```
# 6) Check the outputs
print("python is an \"awesome\" language.")
print("python\n\t2023")
print('I\'m from Entri.\b')
print("\65")
print("\x65")
print("Entri", "2023", sep="\n")
print("Entri", "2023", sep="\b")
print("Entri", "2023", sep="*", end="\b\b\b\b")
```

```
python is an "awesome" language.
python
    2023
I'm from Entri.
5
e
Entri
2023
Entr2023
Entri*2023
```

Exercise 7

Define the variables below. Print the types of each variable. What is the sum of your variables? (Hint: use a type conversion function.) What datatype is the sum?

num=23

textnum="57"

decimal=98.3

Code and Result

```
#  7) Data type conversion
num = 23
textnum = "57"
decimal = 98.3
# Print types
print(type(num))
print(type(textnum))
print(type(decimal))
# Calculate sum
sum = num + int(textnum) + decimal
print("Sum:", sum)
# Print datatype of sum
print("Type of sum:", type(sum))
```

```
<class 'int'>
<class 'str'>
<class 'float'>
Sum: 178.3
Type of sum: <class 'float'>
```

Exercise 8

calculate the number of minutes in a year using variables for each unit of time. print a statement that describes what your code does also. Create three variables to store no of days in a year, minute in a hour, hours in a day, then calculate the total minutes in a year and print the values

(hint) total number of minutes in an year =No.of days in an year * Hours in a day * Minutes in an hour

Code and Result

```
#  8) Calculates total minutes in a year
days_in_year = 365
hours_in_day = 24
minutes_in_hour = 60
total_minutes_in_year = days_in_year * hours_in_day * minutes_in_hour
print("This program calculates the total number of minutes in a year.")
print(f"A year has {total_minutes_in_year} minutes.")
```

```
This program calculates the total number of minutes in a year.
A year has 525600 minutes.
```

Exercise 9

Write Python code that asks the user to enter his/her name and then output/prints his/her name with a greeting.

An example runs of the program:

Please enter you name: Tony

Hi Tony, welcome to Python programming :)

Code and Result

```
# 9) Print name with greeting
name = input("Please enter your name: ")
print(f"Hi {name}, welcome to Python programming :)")
```

```
Please enter your name: Anu
Hi Anu, welcome to Python programming :)
```

Exercise 10

Name your file: PoundsToDollars.py

Write a program that asks the user to enter an amount in pounds (£) and the program calculates and converts an amount in dollar ($)

An example runs of the program:

Please enter amount in pounds: XXX

£ XXX are $ XXX

Code and Result

```
# 10) PoundsToDollars.py
conversion_rate = 1.3
pounds = float(input("Please enter amount in pounds: "))
dollars = pounds * conversion_rate
print(f"£{pounds} are ${dollars}")
```

```
Please enter amount in pounds: 2
£2.0 are $2.6
```