

PYTHON PROGRAMMING INTERNSHIP-VAULT OF CODES

ASSIGNMENT-1

TASK-1:

Review the following codes, find and fix errors and explain the error

Code Snippet 1: Variable Name Typo

Code:

```
python

number_of_apples = 5
print(number_of_apple)
```

Error: NameError

Corrected code: number_of_apples=5

```
print(number_of_apples)
number_of_apples=5
print(number_of_apples)
```

Explanation of the error: 'NameError' indicates that there is mismatch in the name of the variable, function. Here in the given code we declared the name of the variable as number_of_apples and while printing we entered the name of the variable as number_of_apple, which is not correct since 's' is missing. Python will consider both the names are different and displays that the 'number_of_apple' is not defined.

Code Snippet 2: Accessing List Elements Out of Range

Code:

```
python

fruits = ["apple", "banana", "cherry"]
print(fruits[3])
```

Error: IndexError

Corrected code: fruits = ["apple", "banana", "cherry"]

```
print(fruits[2])
fruits=["apple","banana","cherry"]
print(fruits[2])
```

Explanation of the error: generally index of the list, tuple, set starts from "0". Index specifies the location of the element in the list, whose maximum is always (len(list)-1). While accessing the elements in the list if we specify the index of a list out of range it shows "IndexError- Index is out of range". In the given code snippet maximum number of the index is 2 and range of the index is (0,2). But we specified the index number as 3 which is out of range of index of the list.

Debugging Exercise 3: Function Not Behaving as Expected

python

```
def find_average(numbers):  
    sum = 0  
    for number in numbers:  
        sum += number  
    average = sum / len(numbers)  
    return average  
  
numbers = [1, 2, 3, 4, 5, "6"]  
average = find_average(numbers)  
print(f"The average is: {average}")
```

Error: TypeError

Corrected code: def find_average(numbers):

sum=0

for number in numbers:

sum+=number

average=sum/len(numbers)

return average

numbers= [1,2,3,4,5,6]

average=find_average(numbers)

print("The average is: ", average)

```
def find_average(numbers):  
    sum=0  
    for number in numbers:  
        sum+=number  
    average=sum/len(numbers)  
    return average  
numbers=[1,2,3,4,5,6]
```

```
average=find_average(numbers)
print("The average is:",average)
```

Explanation of the error: 6 in numbers list is a string not the integer. We cannot add string and integers. We can add only integers. Hence because of this interpreter shows "TypeError". TypeError indicates that we are trying to combine or perform operations on two different data types, generally it will arise when we try to perform mathematical operations on string and integer.

Exercise 4: Incorrect Dictionary Usage

Code:

```
python

def update_record(records, name, score):
    if name in records:
        records[name].append(score)
    else:
        records[name] = score

student_records = {"Alice": [88, 92], "Bob": [70, 85]}
update_record(student_records, "Charlie", 91)
update_record(student_records, "Alice", 95)

print(student_records)
```

Error: AttributeError

Corrected code: def update_record (records, name, score):

if name in records:

records[name].append(score)

else:

records[name]=[score]

student_records= {"Alice" : [88,92], "Bob": [70,85]}

update_record(student_records, "Charlie", 91)

update_record(student_records, "Alice", 95)

```
def update_record(records,name,score):
    if name in records:
        records[name].append(score)
    else:
```

```
        records[name]=[score]
student_records={"Alice":[88,92],"Bob":[70,85]}
update_record(student_records,"Charlie",91)
update_record(student_records,"Alice",95)
print(student_records)
```

Explanation of the error: Here we need know that score is a list of integers not an single integer. So in code we need to modify the score to [score], so that the code functions properly and display the result as expected.