

Mid Semester Assignment course: Data Science

Student Name: Taufeeq Ahmed

Student ID: 6856

Class: Data science

Section: B

Programme: BS-SE(8th semester)

Date: 13 apr 2020

Q1: wht type of error do occur In python write the parogram with different type of error as will as write separate correction code.

*Ans: 1. **Compile time errors** – errors that occur when you ask Python to run the application. Before the program can be run, the source code must be compiled into the machine code. If the conversion can not perfomed, Python will inform you that your application can not be run*

before the error is fixed. The most common errors of this type are syntax errors – for example, if you don't end an *if statement* with the *colon*

```
x = int(input('Enter a number: '))

if x%2 == 0
    print('You have entered an even number.')
else:
    print ('You have entered an odd number.')
```

2. **Runtime errors** – errors that occur after the code has been compiled and the program is running. The error of this type will cause your program to behave unexpectedly or even crash. An example of an runtime error is the division by zero.

```
>>>
Enter a number: 9
Enter a number: 2
9.0 divided by 2.0 equals: 4.5

>>>
Enter a number: 11
Enter a number: 3
11.0 divided by 3.0 equals: 3.6666666666666665

>>>
Enter a number: 5
Enter a number: 0
Traceback (most recent call last):
File "C:/Python34/Scripts/error1.py", line 3, in <module>
z = x/y
ZeroDivisionError: float division by zero

>>
```

Q2: what are boolean string test write the code for each boolean sting test code.

Ans: **If Statement**

For a program to do anything interesting, it needs if-statements and booleans to control which bits of code to execute. Here is a simple if-statement:

```
if (temperature > 100) {  
    System.out.println("Dang, it's hot!");  
}
```

The simplest if-statement has two parts -- a boolean "test" within parentheses () followed by "body" block of statements within curly braces { }. The test can be any expression that evaluates to a boolean value -- **true** or **false**. The if-statement evaluates the test and then runs the body code only if the test is true. If the test is false, the body is skipped.

If Then Else

Another common form of if-statement adds an "else" clause such as with the code below which prints one message or the other:

```
if (temperature > 100) {  
    System.out.println("Too darn hot");  
}  
else {  
    System.out.println("At least it's not more than 100");  
}
```

The if/else form is handy for either-or logic, where we want to choose one of two possible actions. The if/else is like a fork in the road. Under the control of the boolean test, one or the other will be taken, but not both. For example, the famous Robert Frost poem is a thinly disguised comment on the importance of the if/else structure:

```
Two roads diverged in a wood, and I -  
I took the one less traveled by,  
And that has made all the difference.
```

Q3: what is formatting string input mean in python

write a program in which formatting string input is used?

Ans: To be useful, a program usually needs to communicate with the outside world by obtaining input data from the user and displaying result data back to the user. This tutorial will introduce you to Python input and output.

Input may come directly from the user via the keyboard, or from some external source like a file or database. Output can be displayed directly to the console or IDE, to the screen via a Graphical User Interface (GUI), or again to an external source.

```
>>> n = input('Enter a number: ') 2 Enter a number: 50 3 >>> print(n + 100) 4 Traceback (most recent
call last): 5   File "<stdin>", line 1, in <module> 6 TypeError: must be str, not int 7 8 >>> n =
int(input('Enter a number: ')) 9 Enter a number: 50 10 >>> print(n + 100) 11 150
```