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Source: <https://docs.python.org/3/library/exceptions.html#builtin-exceptions>

Collaborator: No

Extension: No

### **Answer to question no 1**

i= 1

While i <=X:

    X%i == 0:

        Print(i)

    i +=1

### **Answer for question no 2**

#### **First looping steps:**

-i = 0 and j = 0

-Since i<10: meet while condition

-Enters while loop

-And then enters for loop (for x in range (3))

When x=0 (since will have 0,1 and 2 sequentially)

i= 0+1 = 1 and j = 0+2 = 2

When x = 1

i= 1+1= 2 and j = 2+2 =4

When x=2

i=2+1 = 3 and j = 4+2= 6

This process continues until i<10

At the end of first while loop

i = 3 and j =6

#### **On Second while loop:**

Since (i=3) < 10: meet while condition

Enters while loop

And enters for loop (Executes 3 times when x =0, x=1, x=2)

i = 3+1+1+1=6 and j = 6+2+2+2=6

At the end of 2<sup>nd</sup> while loop

i= 6 and j = 12

#### **On Third while loop:**

Since (i=6) <10: meet while condition

Enters 3<sup>rd</sup> while loop

And then enters for loop (Executes 3 times when x =0, x=1, x=2)

i= 6+1+1+1 = 9 and 12+2+2+2=18

At the end of 3<sup>rd</sup> run

i = 9 and j = 18

#### **On 4<sup>th</sup> while loop:**

Since (i=9) <10: meet while condition

Enters while loop

And then enter for loop (Executes 3 times when x =0, x=1, x=2)

i= 9+1+1+1 =12 and j =18+2+2+2=24

At the end of the 4<sup>th</sup> run

i=12 and j = 24

Since (i=12)>10 which **does not meet while loop condition**, does not enter to while loop subsequently does not enter to for loop and execution terminates.

### Problem3

ZeroDivisionError: this kind of error occurs when we try to divide number by zero

For example, -0/4

TypeError: This kind of error occurs when inappropriate data type used in an operation or function. For example - 2+"2"

NameError: this kind of error occurs when both local and global is not found or name has not been defined. For example, name\*5+2

SyntaxError: this type of error occurs when there is something wrong with the syntax of the program. For example, when colon is missed at the end of statement, missing quotation mark, misspelling, or other syntax mistakes.

```
A = [1,2,3,4]
```

```
X= A [3]
```

```
Print (X          #missing parenthesis
```

IndexError: occurs while working with tuple or list using indexing method. For example, if we try to find value which is not in the list, or indexing is out of range.

```
A = [1,2,3,4]
```

```
X= A[6]          #out of range indexing
```

```
print(X)
```

### Answers to problem 4

2. gives 'KeyError' as key banana is different from bananas

4. len(d)= 3

5. 'grapes' in d = True

6, d['pears'] = "KeyError" as there is no such 'pears' in d.

9. ['apples', 'bananas', 'grapes']

11, 'apple' in d = False

