

- **Develop a program that accept the list and iterates over a list of numbers lst and prints the numbers in the list whose square is divisible by 8.**

```
num_list = [2, 3, 5, 7, 8, 9, 12, 16]
```

```
for num in num_list:
    if (num * num) % 8 == 0:
        print(num)
```

```
8
12
16
```

- **Develop a program that illustrates: `SyntaxError`, `IndexError`, `ValueError`, `TypeError` in a statement.**

SyntaxError: Raised when the parser encounters a syntax error.

```
# initialize the amount variable
amount = 10000

# check that You are eligible to
# purchase an item or not
if(amount > 2999)
print("You are eligible to purchase an item")
```

```
File "<ipython-input-10-419f05946998>", line 6
    if(amount > 2999)
        ^
```

SyntaxError: invalid syntax

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IndexError: Raised when a index or subscript in a sequence is out of range.

```
num_list = [2, 3, 5, 7, 8, 9, 12, 16]
```

```
num_list[8]
```

```
-----
IndexError                                Traceback (most recent call
last)
<ipython-input-11-a35340d69182> in <module>
```

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```
-----> 3 num_list[8]
```

IndexError: list index out of range

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ValueError: An error caused by an illegal value.

```
int('67.5')
```

```
-----
ValueError                                Traceback (most recent call
last)
<ipython-input-12-e582b2395acc> in <module>
-----> 1 int('67.5')
```

ValueError: invalid literal for int() with base 10: '67.5'

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```
a='67.5'
```

```
type(a)
```

```
str
```

TypeError: An error caused by incorrect operand types.

```
a = 2
```

```
b = 'DataCamp'
```

```
a + b
```

```
-----
TypeError                                Traceback (most recent call
last)
<ipython-input-15-86a706a0ffdf> in <module>
      1 a = 2
      2 b = 'DataCamp'
-----> 3 a + b
```

TypeError: unsupported operand type(s) for +: 'int' and 'str'

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```
a = 's'
```

```
b = 'd'
```

```
a + b
```

```
'sd'
```

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