

Computing for Engineers – ENGG 233

Lab 5

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L01

Orange

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Exercise 1: Fibonacci Numbers

```
f0 = 1
f1 = 1
counter = 2
n = int(input("Please enter a positive integer number greater than or equal to three: "))

while(n < 3):
    n = int(input("Please enter a positive integer number greater than or equal to three: "))

print(f0, end = ", ")
print(f1, end = ", ")

while(counter <= n):
    fn = f1 + f0
    print(fn, end = ", ")
    counter += 1
    f0 = f1
    f1 = fn
```

```
Please enter a positive integer number greater than or equal to three: 9
1, 1, 2, 3, 5, 8,
```

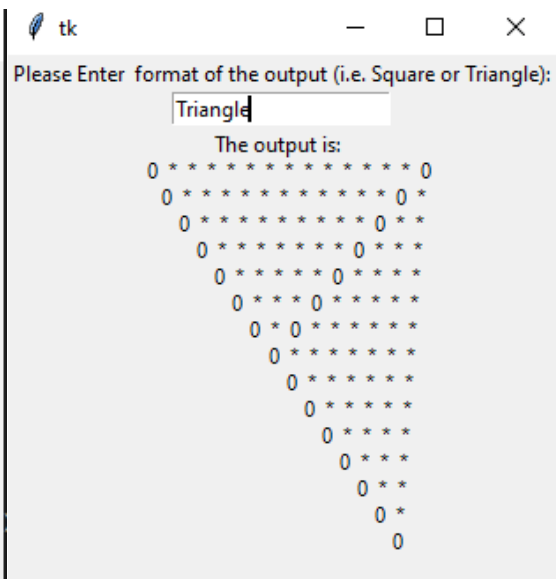
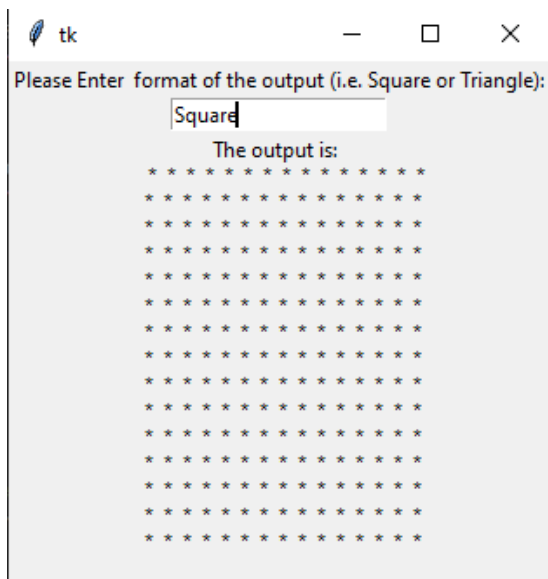
Exercise 2: Square and Triangle

```
import tkinter as tk

def evaluate(event):
    myString = entry.get()
    results = ""
    #####
    if (myString == 'Square'):
        for i in range(15):
            for j in range(15):
                results = results + ' *'
            results = results + '\n'
    elif (myString == 'Triangle'):
        for i in range(15):
            for j in range(15):
                if(i > j):
                    results = results + "  "
                elif(i == j):
                    results = results + " 0"
                elif(i + j == 14):
                    results = results + " 0"
                else:
                    results = results + " *"
            results = results + '\n'
    #####
    res.configure(text = "The output is: \n " + results)

w = tk.Tk()
tk.Label(w, text="Please Enter format of the output (i.e. Square or Triangle):").pack()
entry = tk.Entry(w)
myString = entry.get()
print(myString)

entry.bind("<Return>", evaluate)
entry.pack()
res = tk.Label(w)
res.pack()
w.mainloop()
```



Exercise 3: Multiplication Table

```
i = int(input("How many rows would you like in your multiplication table (between 1 and 15): "))

while(i < 1 or i > 15):
    i = int(input("How many rows would you like in your multiplication table (between 1 and 15): "))

for x in range(i + 1):
    if (x == 0):
        print("X", end = "    ")
    else:
        print(x, end = "    ")
print()
print()

for y in range(i + 1):
    x = 1
    if (y == 0):
        continue
    print(y, end = "    ")
    while (x <= y):
        print(x * y, end = "    ")
        x += 1
    print()
    print()
```

```
How many rows would you like in your multiplication table (between 1 and 15): 7
X   1   2   3   4   5   6   7

1   1

2   2   4

3   3   6   9

4   4   8   12  16

5   5   10  15  20  25

6   6   12  18  24  30  36

7   7   14  21  28  35  42  49
```