

Tuesday Sep 3, 2024

In-class Handout

COSC 101C Intro to Computing I

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Name:

Discuss and complete the following questions with the person nearest you using the nearest whiteboard space. You may be asked to share your thoughts with the class.

1. What does this program output? What order are the statements executed?

```
def func_one():
    a = 1
    b = 3
    print('Truncation')
    print(a//3)

def func_two():
    a = 1
    b = 3
    print("Mod")
    print(1%3)
    func_one()

def main():
    func_two()
    print('Main')
main()
```

Output

```
Mod
1
Truncation
0
Main
```

Line order

```
1-17
14-15
7-12
1-5
16
```

2. Write a function that prints the volume of a box by asking for the length, width, and height. **Note** The relevant equation is $V = l * w * h$

```
def volume():
    length = float(input("What is the length? "))
    width = float(input("What is the width? "))
    height = float(input("What is the height? "))
```

```
v = length*width*height
print("The volume is", v)
```

3. Label the following code in the order the lines are executed. What is the output?

```
def again() -> None:
    print('a', end='')

def ok() -> None:
    print('c', end='')

def stop() -> None:
    t()
    s()

def t():
    print('t', end='')

def s():
    print('s')

def main() -> None:
    ok()
    again()
    stop()
```

```
main()
```

Order of Execution:

```
1-22
17-18
4-5
19
1-2
20
7-8
11-12
9
14-15
```

Output (you guessed it):

```
cats
```

4. Your task is to write a program to print three types of guitars on the screen using ASCII characters: (i) a classical guitar, (ii) a guitar with a retro head, (iii) and a long guitar with a neck twice as long as the classical guitar. Below you have all the different print statements needed to draw the three types of guitars.

Split these statements between different functions and then combine them by calling them in the correct order in a function called main(). For code that is identical to the provided code, indicate the line number or range; do NOT waste time copying it.

```
#classical guitar
print("      _____")
print("      o|* *|o")
print("      o|* *|o")
print("      o|* *|o")
```

```

print("      \===/")
print("      |||")
print("      |||")
print("      _____")
print("     /       |       \ ")
print("    /       |       \ ")
print("   /       |       \ ")
print("  /       (|||)    / ")
print(" /       |       \ ")
print("/       |       \ ")
print("/       |       \ ")
print("/       |       \ ")
print("/       |       \ ")
print("/       |       \ ")
print("/       [===]    | ")
print("\       (|||)    / ")
print(".       . ")
print(" '-----' ")
#retro head
print("      .-_. ")
print("    +|\G/|+")
print("    +|\./|+")
print("    +|\./|+")
print("      \===/")
#long neck
print("      \===/")
print("      |||")
print("      |||")
print("      |||")
print("      |||")
print("      _____")

def print_head() -> None:
    # lines 2-6
    print("      _____")
    print("     o|* *|o")
    print("     o|* *|o")
    print("     o|* *|o")
    print("      \===/")

def print_retro_head() -> None:
    # lines 23-27
    print("      .-_. ")
    print("    +|\G/|+")
    print("    +|\./|+")
    print("    +|\./|+")
    print("      \===/")

def print_neck():
    # lines 7-8
    print("      |||")
    print("      |||")

def print_body():
    # lines 9-21
    print("      _____")
    print("     /       |       \ ")
    print("    /       |       \ ")
    print("   /       |       \ ")
    print("  /       (|||)    / ")

```

```

print (" | ||| |")
print (" / ||| \ ")
print (" / ||| \ ")
print (" / ||| \ ")
print (" | [===] |")
print (" \ / ")
print (" ' . ' ")
print (" '-----' ")

```

```

def print_classic_guitar() -> None:
    print_head()
    print_neck()
    print_body()

```

```

def print_retro_guitar() -> None:
    print_retro_head()
    print_neck()
    print_body()

```

```

def print_long_guitar() -> None:
    print_head()
    print_neck()
    print_neck()
    print_body()

```

```

def main() -> None:
    print_classic_guitar()
    print_retro_guitar()
    print_long_guitar()

```

```

main()

```