

ITPACT

Assignment May 25, 2020

Games and Activities

The below assignment is a fun family activity that should be done with family members' involvement.

GAME

One of your family members is standing blindfolded in one of your rooms (say, one of the bedrooms). You have to take him/her to the room at the other room by instructing. There are only the following instructions given:

1. Take one step.
2. Stop
3. Turn right
4. Turn left

Further activities:

- Switch your roles.
- Modify the game by adding instructions to the list above and setting harder targets.

INSTRUCTION TO FIND WAY HOME

Write detailed instructions to your friend coming from the airport to our residence. Your friend is new to the city. Hence, try to give as detailed an instruction as possible. Try to account for as many eventualities as you can think of. For example: Google maps not working, Taxi not working etc. (of course, don't go overboard, e.g. *alien attack* or *Tsunami*).

INTRODUCTION TO COMPUTER USAGE

Consider a person who is not familiar to using computers, e.g. your little sibling, or your grandparent. Sit with him/her and instruct him/her to switch on the computer and perform some activity (e.g. writing a letter on MS Word) using only verbal instructions.

Repeat the above by sitting away from him/her.

Questions:

1. Write a program that accepts a number from the user and prints 'BIG' if the number is greater than 10, else prints 'SMALL'.

(File: num.py)

2. Write a program that accepts a string from the user and prints 'LONG' if the length of the string is greater than 10, else prints 'SHORT'.

(File: strlen.py)

3. Write a modified banner program which allows the user to choose the decorator character of the banner. For example, an interaction with this program should look somewhat as follows:

```
$ python3 banner-decorator.py
Enter your decorator: #
Enter your message: Hello world!
#####
# Hello world! #
#####
```

(File: banner-decorator.py)

4. Write a modified banner program which allows the user to choose the decorator character of the banner. It functions similarly as banner-decorator.py. However, when the user inputs a string which has other than one character, the program shows an error message and exits. For example, an interaction with this program should look somewhat as follows:

```
$ python3 banner-safe.py
Enter your decorator: @@
Your decorator must be only one character long.
```

Hint:

1. Not equal to operator in Python is written as !=.
2. To allow program to exit from a given program point
 - (a) Write `import sys` at the top of the file.
 - (b) Instruction `sys.exit(0)` from where you want to exit the program.

(File: banner-safe.py)

5. Enhance the calc.py program to include subtraction and division on top of addition and multiplication.

(File: calc.py)