

Python Programming – functions worksheet #2

Task 1 – triangle function

Below is some **pseudocode** for a program. Type it up the program in Python and run it. HINT: the parameters will need to be **converted to integers** before doing any arithmetic on them.

```
function triangle(base, height)
    halfBase = base / 2
    area = halfBase * height
endfunction

#main program
area = triangle(8, 10)
print(area)
```

It should output the value '40', but does not. Why? There is a line missing from the function. Find the error and fix it.

Task 2 – answerYorN function

Write a program function called that:

1. Asks the user a question
2. Uses a function called answerYorN that checks the response to the question.
3. The function should check that the answer is "y" or "n".
4. Any other response is invalid
5. If invalid the function should ask the user to re-enter until a valid response is received.
6. The function will then return "y" or "n" when a valid response is received.

The subroutine is called as follows:

```
response = answerYorN()
```

Task 3 – addIntegers function

Write a function called addIntegers which takes two integers. The function needs to **add up all the numbers between the first number and last number** and return the result.

For example addIntegers(5,10) will return 45

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Task 4 – colour function

Write a program which asks the user to enter their favourite colour. The program then calls a function named **colour** which takes the entered colour as an input. The procedure will then return one of the following comments to be output, depending on the colour chosen:

Colour	Output
black	Night
blue	Sky
red	Danger
All other colours entered	Don't know

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Task 5 – RPG character creator

Create a program which will randomly create a RPG character's stats. The program should generate a class, gender, strength/magic/dexterity points and special abilities. This should then be displayed to the user. Make sure your code makes use of functions where appropriate.

Example of program running:

Do you want to create a new character (y/n)? y
Enter a name for your character: Gandalf
The following stats have been generated for Gandalf:

Class: Elf
Gender: Male
Strength: 25
Magic: 40
Dexterity: 30
Special abilities: Deadly Attack

Do you want to create a new character (y/n)? y
Enter a name for your character: Bilbo
The following stats have been generated for Bilbo:

Class: Wizard
Gender: Female
Strength: 10
Magic: 80
Dexterity: 25
Special abilities: Force Push

Do you want to create a new character (y/n)? n