Project proposal: Adventure game

Explanation of concept

Our project proposal is a text-based adventure game. It will be a game that relies on the user answering various questions and correct answers will result in our imported turtle moving forward and drawing a unique shape depending on the level selected . The game will take place in a level based on the user's level of expertise and from there. For beginner level, the questions will be 4, each correct question prompts the turtle to form a line, a step further towards completing the desired shape. Intermediate level the questions are 7 to form a heptagon, and for expert level, the questions would be 10.

The initial prompt will be one asking the user to state their level of expertise and creating an avatar with a unique hair colour to show the level of the player. This feature will use the concept of inheritance - the parent class will create an avatar and the child classes will deal with creating avatars with various levels. Another instance of inheritance will be seen in the levels that will be created for the various levels of expertise of the user.

E.g. (for avatar creation)

```
y = input("What is your level of expertise in x? Answer A, B or C")
if y.upper() == A;
  Beginner(Avatar)
elif y.upper() == B;
  Intermediate(Avatar)
else;
  Expert(Avatar)
```

print("Welcome to the level! Are you ready to begin? y or n
E.g (for level creation)

```
BeginnerLevel(Level)
IntermediateLevel(Level)
AdvancedLevel(Level)
```

Classes & Pseudo-Code

```
Import turtle
Our_avator = Turtle.turtle()

class Avatar:

  __init__(self, name, age, gender, skinColour, specialPower)

self.name = name
self.age = age
self.gender = gender
self.skinColour = skinColour
self.specialPower = specialPower

name = input("What is your name?")
age = int(input("How old are you? (enter this as a number)"))
gender = input("What is your gender?")
skinColour = input("What colour do you want your avatar to be?")
specialPower = input("What do you want your special power to be?")

Def color_check(): # check level selected hence changes the turtle to its respective level



class BeginnerAvatar(Avatar):
     __init__(self, name, age, gender, skinColour, specialPower, hairColour)
    super().___init__(self, name, age, gender, skinColour, specialPower)
    self.hairColour = hairColour
    hairColour = green

class IntermediateAvatar(Avatar):
    __init__(self, name, age, gender, skinColour, specialPower, hairColour)
    super().___init__(self, name, age, gender, skinColour, specialPower)
    self.hairColour = hairColour
    hairColour = orange

class AdvancedAvatar(Avatar):
    __init__(self, name, age, gender, skinColour, specialPower, hairColour)
    super().___init__(self, name, age, gender, skinColour, specialPower)
    self.hairColour = hairColour
    hairColour = red
```

```
class Level:
  __init__(self, name, theme, questionType);
  self.name = name
  self.theme = theme
  self.questionType = questionType

class BeginnerLevel(Level):                #The methods are still in progress.
    pass

class IntermediateLevel(Level):
    pass

class AdvancedLevel(Level):
    pass
```

Unit testing table (testing the methods in our classes)

Test case number	Test case description	Test data	Expected result	Actual result	Pass/Fail
Class Avatar					
1	Confirms that our avatar(turtle) changes color	color_check() function	It changes the color of our avatar depending on which level the user inputs	-	-
Class Level					
6	Checks that for every correct answer a line is drawn in the beginner level.	Draw_rectangle() function	For every correct answer our user inputs in the beginner level which will contain 4 questions only, our turtle draws a line ready to form the rectangle		
7	Checks that for every correct answer a line is drawn in the intermediat e level.	Draw_heptagon() function	For every correct answer our user inputs in the beginner level which will contain 7 questions only, our turtle draws a line ready to form the heptagon		

8	Checks that for every correct answer a line is drawn in the expert level.	Draw_decagon() function	For every correct answer our user inputs in the beginner level which will contain 10 questions only, our turtle draws a line ready to form the heptagon		
9					
10					