Team-based Play in Education

Chris Boesch, PhD
A New Culture of Learning

- Knowing
- Making
- Playing
Flow

Mihaly Csikszentmihalyi (cheek-sent-me-high)
Hard Fun

- Clear goals
- Opportunity to concentrate
- Achievable tasks
- Immediate feedback
- Deep effortless involvement
- Uncertain outcome

Mihaly Csikszentmihalyi (cheek-sent-me-high)
Mobile Current Problem

Functions and arguments
What is an argument? An argument is the value that is passed into a function. Assemble the function `add_six()`.
This function takes in an integer as a parameter and then returns the integer incremented by 6.

Tick the box to automatically progress to the next problem. Drag the code from the Sample Code box to the Solution box to work the code.

5 out of 10 problems solved

Solution

```python
def add_six(n):
    return 2 + 6;
```

Sample Code Example

- `return n + 'six'`
- `return 5 + 6;`
- `return n + 6`

Results

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<tr>
<th>Call</th>
<th>Expected</th>
<th>Received</th>
<th>Correct</th>
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Progress, Badges, and Choices

Beginner Python

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Play Game Options

- Set of 3
- Set of 5
- Set of 10
- Complete Level

Share

Share this page with your friends:

Beginner Python Rankings

1. Yousef Al-ghamdi
2. TS
3. Min Joo
Class and Country Rankings

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Normal Game Play

Product
Create the function product() that takes two values as parameters and returns the product of them.

```python
1. def product(a, b):
2.     return
```
“Fun” Live Tournaments
# Tournament Results

## Round 1

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Tournament-based Teaching

- Pre-class, self-paced challenges for participation grade.
- Start class with a **fun** 30 minute tournament.
- **No grades** given for tournament performance.
- Tournament Progression:
  - Closed-book until first winner (or X minutes in)
  - Open-book, individual performance until top 10 finish.
  - Peer-based learning until 95% complete tournament.
- In class, team-based labs to collaboratively apply new skills
- Outside of class, team-based projects to apply newly mastered skills by making things.
Welcome SCBoesch!

GAME REQUESTS | ONGOING GAMES | COMPLETED GAMES

- Tic Tac Toe
- Connect 4
- Gomoku
Towards Team-based Play

**Tournament Heats:**

<table>
<thead>
<tr>
<th>Overall</th>
<th>Connect4 Tournament Heat</th>
<th>TicTacToe Tournament Heat</th>
<th>Gomoku Tournament Heat</th>
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Registered Apps for competition:

IS203 Software Engineering 2011

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<th>Rank</th>
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# Gomoku

## Gomoku Tournament Heat results

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Lots of Quick Feedback

TicTacToe Tournament Heat results

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Ongoing Work

- Personalized practice for pre-class assignments
- Team-based competitions
  - To encourage additional team-based practicing and collaborative learning
- Better enabling intrinsic (versus extrinsic) motivation
Thank You

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