

## Change Screen Color & Title

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### Textbook

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## Change Screen Color and Title



You can also change the screen color that your Python Turtle lives on! This is done with the `bgcolor()` command.

`bg` stands for background.

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bgcolor("blue")
```

See how this changes the background color blue? You can change the background color at any point of your code.

```
1 import turtle
2 turtle.getscreen()
```

```
3  
4 turtle.circle(50)  
5 turtle.bgcolor("yellow")
```

## Sequencing/Algorithms

See how the background color won't change until *after* the circle is drawn? The order of your code matters. This is an example of [sequencing](#).

Sequencing is important in programming. Putting commands in the correct order helps make sure a program runs correctly. If coding commands appear out of order, the program won't run as intended.

An [algorithm](#) is a series of instructions put in a certain sequence. All the programs we have created are an algorithm of some kind—the code appears in a certain order and accomplishes a certain thing.

## Which Colors Can I Use?



The Python Turtles library comes with a variety of colors that will work. Try out different colors to see if they will work!

Try some of these colors:

**red, orange, yellow, green, blue, purple, pink, gray, brown, magenta, turquoise, coral, lime, aqua, hotpink, lavender**

## Hexadecimal Value

You can actually make the background any color you want by using a value called a [hexadecimal value](#). This value is set up to represent any color you can think of.

At the top right of your code page, look for a painters pallet icon. It should look like this.



After choosing the color you like, copy the value that appears after the hashtag symbol `#` . An example of a hexadecimal value looks like this:

`#38d63b`

Paste this value into the parentheses of your background color command.

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bgcolor("#38d63b")
```

This will change the background color to your chosen color!

## Change the Screen Title

You can also update the title at the top of your turtle screen.

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.title("My Super Awesome Turtle")
```

This will update the title of your turtle screen.

## Checkpoint

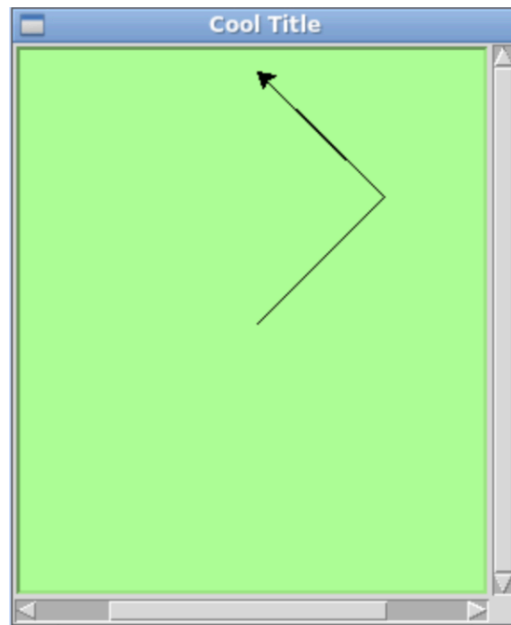
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### Change Screen Color & Title

Practice changing the screen color and title for your turtle screen.

1. Include the necessary code to start up a Python screen (import the library and generate a screen).

2. Add a background color with a hexadecimal value.
3. Add a custom title to your turtle screen.
4. Rotate your turtle to the left 45 degrees.
5. Move your turtle forward 100.
6. Rotate your turtle to the left 90 degrees.
7. Move your turtle forward 100.



## Requirements:

- Include the necessary code to start up a Python screen (import the library and generate a screen).
- Add a background color with a hexadecimal value.
- Add a custom title to your turtle screen.
- Rotate your turtle to the left 45 degrees.
- Move your turtle forward 100.
- Rotate your turtle to the left 90 degrees.
- Move your turtle forward 100.

## Questions (10)

### 1. How can you change the background color of the Python turtle screen?

MULTIPLE CHOICE

Choose the correct answer:

- A. `turtle.set_bgcolor("green")`
- B. `turtle.color("blue")`
- C. `turtle.bgcolor("red")`
- D. `turtle.set_background("yellow")`

### 2. Why is sequencing important in programming?

MULTIPLE CHOICE

Choose the correct answer:

- A. It makes the code shorter.
- B. It determines the screen title.
- C. It ensures the correct execution of the program.
- D. It affects the color choices for the turtle.

### 3. What is the purpose of a hexadecimal value?

MULTIPLE CHOICE

Choose the correct answer:

- A. It represents the turtle's size.
- B. It defines the turtle's speed.
- C. It represents any color.
- D. It sets the turtle's initial position.

### 4. If you want to set the background color to a specific shade of green using a hexadecimal value, what should the code look like?

MULTIPLE CHOICE

Choose the correct answer:

- A. `turtle.bgcolor("green")`
- B. `turtle.set_bgcolor("44ff00")`
- C. `turtle.bgcolor("#00ff44")`
- D. `turtle.bgcolor("darkgreen")`

### 5. How can you set the title of the turtle screen?

MULTIPLE CHOICE

Choose the correct answer:

- A. turtle.title("My Title")
- B. screen.title("My Title")
- C. turtle.set\_title("My Title")
- D. turtle.change\_screen\_title("My Title")

### 6. Which colors can you use for the background color? Select all that apply.

SELECT MULTIPLE

Select all that apply:

- A. hotpink
- B. turquoise
- C. coral
- D. green

### 7. Debug the following code:

DEBUG CODE

Code to Debug:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.background-color("#3498eb")
```

### 8. Debug the following code:

DEBUG CODE

Code to Debug:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.title>Welcome)
```

### 9. Debug the following code:

[DEBUG CODE](#)

#### Code to Debug:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bgcolor("red")
5 turtle.title("Welcome")
```

### 10. Debug the following code:

[DEBUG CODE](#)

#### Code to Debug:

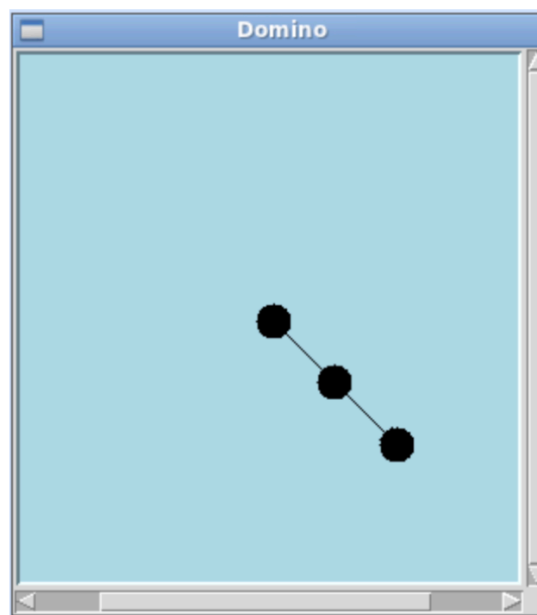
```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bg-color("red")
5 turtle.title("Welcome")
```

## Challenges (5)

### 1. Domino

Create a domino value of 3 with three dots on it.

1. Include the necessary code to start up a Python screen (import the library and generate a screen).
2. Add a background color
3. Add a title to your turtle screen that says `Domino`
4. Draw a dot with a value of 20.
5. Rotate your turtle right 45.
6. Move your turtle forward 50.
7. Draw another dot with a value of 20.
8. Move your turtle forward 50.
9. Draw another dot with a value of 20.



#### Requirements:

- Include the necessary code to start up a Python screen (import the library and generate a screen).
- Add a background color
- Add a custom title to your turtle screen that says `Domino`
- Draw a dot with a value of 20.
- Rotate your turtle right 45.
- Move your turtle forward 50.
- Draw another dot with a value of 20.
- Move your turtle forward 50.

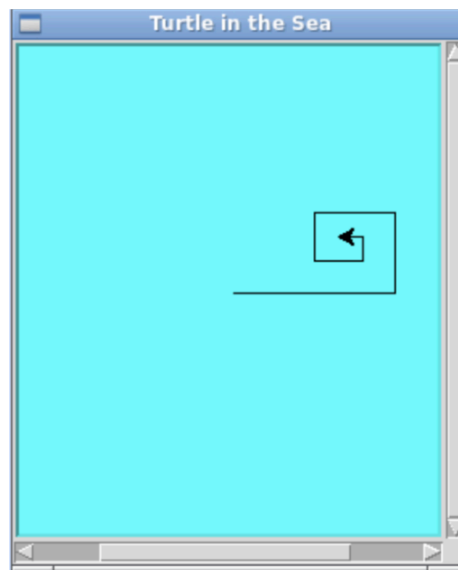


- Draw another dot with a value of 20.

## 2. Ocean Wave

Create an ocean wave!

1. Include the necessary code to start up a Python screen (import the library and generate a screen)
2. Add a background color with a hexadecimal value
3. Add a custom title to your turtle screen
4. Draw a curly wave. The wave needs to have at least six 90 degree turns
5. The program should also have at least 6 forward commands



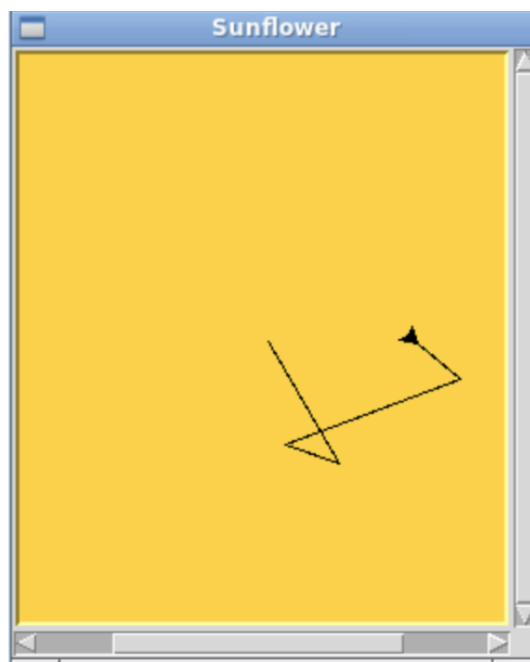
### Requirements:

- Include the necessary code to start up a Python screen (import the library and generate a screen)
- Add a background color with a hexadecimal value
- Add a custom title to your turtle screen
- Draw a curly wave. The wave needs to have at least **six** 90 degree turns
- The program should also have at least 6 forward commands

### 3. Draw Your Own Design

Make your own design!

1. Include the necessary code to start up a Python screen (import the library and generate a screen).
2. Add a background color with a hexadecimal value.
3. Add a custom title to your turtle screen.
4. In your own design, include at least two commands to move forward.
5. In your own design, include at least two commands to move backward.
6. In your own design, include at least two commands to rotate to the right.
7. In your own design, include at least two commands to rotate to the left.



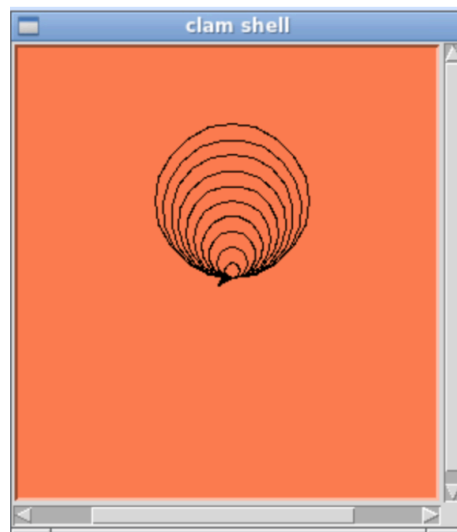
#### Requirements:

- Include the necessary code to start up a Python screen (import the library and generate a screen).
- Add a background color with a hexadecimal value.
- Add a custom title to your turtle screen.
- In your own design, include at least two commands to move forward.
- In your own design, include at least two commands to move backward.
- In your own design, include at least two commands to rotate to the right.
- In your own design, include at least two commands to rotate to the left.

#### 4. Clam Shell

Create a clam shell!

1. Include the necessary code to start up a Python screen (import the library and generate a screen).
2. Add a background color with a value of `coral`.
3. Add a title of `clam shell` to your turtle screen.
4. Draw the clam shell using 10 circles. The circle radius should start at 5 and increase by 5 every time it repeats until it reaches 50 radius.



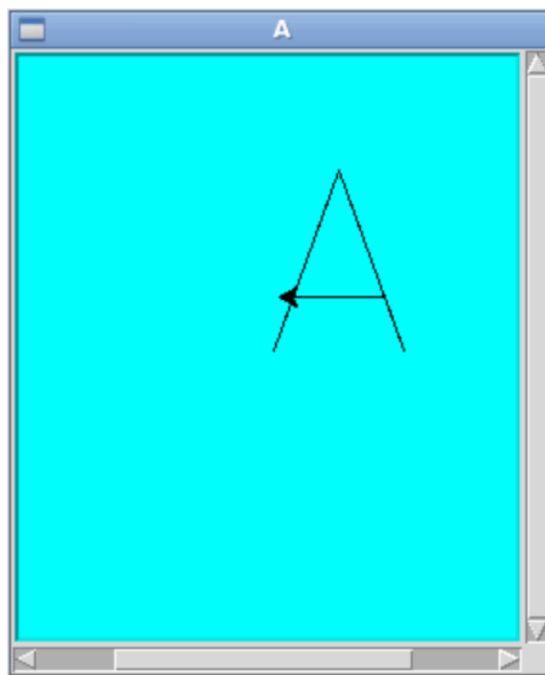
#### Requirements:

- Include the necessary code to start up a Python screen (import the library and generate a screen).
- Add a background color with a value of `coral`.
- Add a title of `clam shell` to your turtle screen.
- Draw the clam shell using 10 circles. The circle radius should start at 5 and increase by 5 every time it repeats until it reaches 50 radius.

## 5. The Letter A

Draw the letter A with your turtle! Title the screen `A` and give it a background of a color that starts with A.

1. Include the necessary code to start up a Python screen (import the library and generate a screen)
2. Give the turtle screen a background color of `aqua`
3. Give a title of `A` to your turtle screen
4. Rotate your turtle to the left 70 degrees
5. Move your turtle forward 100
6. Rotate your turtle to the right 140 degrees
7. Move your turtle forward 100
8. Move your turtle backward 30
9. Rotate your turtle to the right 110
10. Move your turtle forward 55



### Requirements:

- Include the necessary code to start up a Python screen (import the library and generate a screen)
- Give the turtle screen a background color of `aqua`
- Give a title of `A` to your turtle screen
- Rotate your turtle to the left 70 degrees
- Move your turtle forward 100
- Rotate your turtle to the right 140 degrees

- Move your turtle forward 100
- Move your turtle backward 30
- Rotate your turtle to the right 110
- Move your turtle forward 55

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## Answer Keys & Solutions

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### Checkpoint Solutions

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#### Change Screen Color & Title

```
1 import turtle
2 turtle.getscreen()
3 turtle.bgcolor("#b0ff94")
4 turtle.title("Cool Title")
5
6 turtle.left(45)
7 turtle.forward(100)
8 turtle.left(90)
9 turtle.forward(100)
```

### Questions

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#### 1. How can you change the background color of the Python turtle screen?

MULTIPLE CHOICE

##### Correct Answer:

- A. turtle.set\_bgcolor("green") ✗ Incorrect
- B. turtle.color("blue") ✗ Incorrect
- C. turtle.bgcolor("red") ✓ Correct
- D. turtle.set\_background("yellow") ✗ Incorrect

##### Explanation:

Background is abbreviated.

#### 2. Why is sequencing important in programming?

MULTIPLE CHOICE

##### Correct Answer:

- A. It makes the code shorter. ✗ Incorrect
- B. It determines the screen title. ✗ Incorrect
- C. It ensures the correct execution of the program. ✓ Correct

D. It affects the color choices for the turtle.

✗ Incorrect

**Explanation:**

Sequencing is the order that commands appear in the code

**3. What is the purpose of a hexadecimal value?**

MULTIPLE CHOICE

**Correct Answer:**

A. It represents the turtle's size.

✗ Incorrect

B. It defines the turtle's speed.

✗ Incorrect

C. It represents any color.

✓ Correct

D. It sets the turtle's initial position.

✗ Incorrect

**Explanation:**

Hexademical values are assigned to every color in computer programming.

**4. If you want to set the background color to a specific shade of green using a hexadecimal value, what should the code look like?**

MULTIPLE CHOICE

**Correct Answer:**

A. `turtle.bgcolor("green")`

✗ Incorrect

B. `turtle.set_bgcolor("44ff00")`

✗ Incorrect

C. `turtle.bgcolor("#00ff44")`

✓ Correct

D. `turtle.bgcolor("darkgreen")`

✗ Incorrect

**Explanation:**

Hexadecimal values have this symbol #

**5. How can you set the title of the turtle screen?**

MULTIPLE CHOICE

**Correct Answer:**

A. `turtle.title("My Title")`

✓ Correct

B. `screen.title("My Title")`

✗ Incorrect

C. `turtle.set_title("My Title")`

✗ Incorrect

D. `turtle.change_screen_title("My Title")`

✗ Incorrect

#### Explanation:

The words used are `turtle` and `title`.

### 6. Which colors can you use for the background color? Select all that apply.

SELECT MULTIPLE

#### Correct Answers:

A. `hotpink`

✓ Correct

B. `turquoise`

✓ Correct

C. `coral`

✓ Correct

D. `green`

✓ Correct

#### Explanation:

Most colors work

### 7. Debug the following code:

DEBUG CODE

#### Incorrect Code:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.background-color("#3498eb")
```

#### Correct Solution:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bgcolor("#3498eb")
```

#### Explanation:



background-color needs to be shortened.

## 8. Debug the following code:

DEBUG CODE

### Incorrect Code:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.title>Welcome)
```

### Correct Solution:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.title("Welcome")
```

### Explanation:

This code is missing quotation marks

## 9. Debug the following code:

DEBUG CODE

### Incorrect Code:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bgcolor("red")
5 turtle.title("Welcome"
```

### Correct Solution:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bgcolor("red")
5 turtle.title("Welcome")
```

### Explanation:

This code is missing a parenthesis

## 10. Debug the following code:

DEBUG CODE

### Incorrect Code:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bg-color("red")
5 turtle.title("Welcome")
```

#### Correct Solution:

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bgcolor("red")
5 turtle.title("Welcome")
```

#### Explanation:

This code shouldn't have a hyphen

## Challenges

### 1. Domino

#### Solution:

```
1 import turtle
2 turtle.getscreen()
3 turtle.bgcolor("light blue")
4 turtle.title("Domino")
5
6
7 turtle.dot(20)
8 turtle.right(45)
9 turtle.forward(50)
10 turtle.dot(20)
11 turtle.forward(50)
12 turtle.dot(20)
```

### 2. Ocean Wave

#### Solution:

```
1 import turtle
2 turtle.getscreen()
3 turtle.bgcolor("#72fbfd")
4 turtle.title("Turtle in the Sea")
5
6 turtle.forward(100)
7 turtle.left(90)
8 turtle.forward(50)
9 turtle.left(90)
10 turtle.forward(50)
11 turtle.left(90)
12 turtle.forward(30)
13 turtle.left(90)
14 turtle.forward(30)
```

```
15 turtle.left(90)
16 turtle.forward(15)
17 turtle.left(90)
18 turtle.forward(15)
```

### 3. Draw Your Own Design

**Solution:**

```
1 import turtle
2 turtle.getscreen()
3 turtle.bgcolor("#fbd650")
4 turtle.title("Sunflower")
5
6 turtle.right(60)
7 turtle.forward(75)
8 turtle.left(40)
9 turtle.backward(30)
10 turtle.left(40)
11 turtle.forward(100)
12 turtle.right(60)
13 turtle.backward(30)
```

### 4. Clam Shell

**Solution:**

```
1 import turtle
2 turtle.getscreen()
3
4 turtle.bgcolor("coral")
5 turtle.title("clam shell")
6
7 turtle.circle(5)
8 turtle.circle(10)
9 turtle.circle(15)
10 turtle.circle(20)
11 turtle.circle(25)
12 turtle.circle(30)
13 turtle.circle(35)
14 turtle.circle(40)
15 turtle.circle(45)
16 turtle.circle(50)
```

### 5. The Letter A

**Solution:**

```
1 import turtle
2 turtle.getscreen()
```

```
3 turtle.bgcolor("aqua")
4 turtle.title("A")
5
6 turtle.left(70)
7 turtle.forward(100)
8 turtle.right(140)
9 turtle.forward(100)
10 turtle.backward(30)
11 turtle.right(110)
12 turtle.forward(55)
```