



The Twelve Codes of Christmas

Welcome to *The Twelve Codes of Christmas*! This festive collection of bite-sized Python programs is designed to bring a little coding magic to your holiday season. Each "code" is a mini adventure—simple enough for beginners yet delightful for all. From mesmerising patterns to playful animations, these programs invite you to explore, experiment, and experience the joy of creative coding. Happy coding and happy Christmas!

```
import random
for _ in range(20):
    print(" ".join(random.choice(".*#") for _ in range(20)))
```

```
size = 5
for i in range(size * 2):
    print(" " * abs(size - i) + "*" * (size - abs(size - i)))
```

```
import time
wave = " ~~~~~"
for _ in range(20):
    wave = wave[-1] + wave[:-1]
    print(wave, end="\n", flush=True)
    time.sleep(0.2)
```

```
for i in range(5):
    print(" " * (4 - i) + "*" * (2 * i + 1))
for i in range(3, -1, -1):
    print(" " * (4 - i) + "*" * (2 * i + 1))
```

```
for i in range(8):
    print(" ".join("■" if (i+j) % 2 == 0 else " " for j in range(8)))
```

```
import time
```

```
frames = ["|", "/", "-", "\\"]
for _ in range(20):
    for frame in frames:
        print(frame, end="\n", flush=True)
        time.sleep(0.2)
```

```
for i in range(10):
    print(" " * i + "\\")
```

```
import random
for _ in range(10):
    print("".join(random.choice(" *") for _ in range(20)))
```

```
import time, random
for _ in range(10):
    print(" " * random.randint(0, 10) + "|")
    time.sleep(0.2)
```

```
for i in range(1, 8):
    print(" " * (7 - i) + "o" * (2 * i - 1))
```

```
import time
for i in range(1, 6):
    print(" " * (5 - i) + "*" * (2 * i - 1), end="\n", flush=True)
    time.sleep(0.5)
```

```
import time
for i in range(21):
    bar = "[" + "#" * i + " " * (20 - i) + "]"
    print(bar, end="\n", flush=True)
    time.sleep(0.2)
print("\nDone!")
```

Inspired? Why not create your own festive programs? Let your imagination run wild, there's no limit to what you can code!