KPMG: CODE

INTRO TO CODING

ROCK, PAPER, SCISSORS WITH PYTHON

WHAT IS PROGRAMMING?

WHAT IS PYTHON?

WHAT'S IT USED FOR?

WHO USES IT?

TEXT EDITOR

TRINKET.IO

HELLO, WORLD!

HELLO, WORLD!

```
print("Hello, World!")
```

LINK 1 - HELLO WORLD

PUTTING IT ALL TOGETHER 1

```
print("Welcome to Rock, Paper, Scissors")
```

LINK 1 - ROCK, PAPER, SCISSORS INTRO

VARIABLES

VARIABLES

```
<variable_name> = <value>
```

VARIABLES

```
name = "Charlie"
age = 27
left_to_pay = 29.99
has_paid = False
```

VARIABLES

- Any mix of letters, numbers and some special characters
  - Must start with a letter
  - Keep lowercase
  - Use underscore where there are spaces

WRITING PYTHON

- You are not writing an essay...
  - Keep things lowercase
  - Don't use punctuation
- Replace spaces with underscores

DATA TYPES

STRINGS

STRINGS

Characters surrounded by quotes

```
name = "Safia"
address = "123 Station Road"
favourite_food = "Pizza"
```

ESCAPING

ESCAPING

```
\n = New line
\t = Tab
\" = Double Quote
```

ESCAPING

```
favourite_food = "Pizza from \"Dough N' Sauce\""
shopping_list = "Apples\nBread\nMilk\nEggs"
```

LINK 2 - ESCAPING

INTEGER

INTEGER

A whole number

```
age = 17
days_in_january = 31
bottles_sitting_on_the_wall = 99
```

FLOAT

FLOAT

A decimal number

```
price = 12.99
percent = 34.57
pi = 3.1415
```

NUMERICAL OPERATORS

NUMERICAL OPERATORS

OPERATOR	ACTION	EXAMPLE
+	Addition	1 + 2
-	Subtraction	3 - 1
*	Multiplication	3 * 7
/	Division	9 / 3
**	Exponent	4 ** 2
%	Modulus (remainder)	10 % 3

NUMERICAL OPERATORS

```
print(1 + 2)
print(5 - 3)
print(3 * 7)
print(49 / 7)
print(4 ** 2)
print(10 % 3)
```

NUMERICAL OPERATORS

```
x = 3
y = 6
area = x * y
```

LINK 3 - NUMERICAL OPERATORS

CONCATENATION

CONCATENATION

```
first_name = "Lisa"
last_name = "Henegan"
full_name = first_name + " " + last_name

print("Hello " + first_name)
print("Good morning, " + full_name)
```

LINK 4 - CONCATENATION

INPUT

INPUT

```
name = input("What's your name? ")

print("Hello " + name)
```

LINK 5 - INPUT

PUTTING IT ALL TOGETHER 2

```
print("Welcome to Rock, Paper, Scissors")

user_choice = input("What is your move? (rock, paper, scissors) ")
print("You picked " + user_choice)
```

LINK 6 - ROCK, PAPER, SCISSOR INPUT

CONDITIONALS

IF

```
if 1 == 1:
    print("This is always shown")

if 3 == 5:
    print("This is never shown")
```

INDENTING

```
name = "Lisa"

if name == "Lisa":
    print("Hello Lisa")
```

COMPARATORS

COMPARATOR	DESCRIPTION	EXAMPLE
==	Equals	"Lisa" == "Lisa"
!=	Does not equal	"Bill" != "Catherine"
<	Less than	4 < 10
>	Greater than	12 > 8
<=	Less than or equal to	7 <= 7
>=	Greater than or equal to	8 >= 5

ELSE

```
if 1 == 1:
    print("Yes")
else:
    print("No")
```

ELSE

```
age = 16

if age >= 18:
    print("You can vote.")
else:
    print("You cannot vote.")
```

LINK 7 - IF/ELSE

ELIF

```
user_choice = input("What is your move? (rock, paper, scissors) ")

if user_choice == "paper":
    print("You picked paper")
elif user_choice == "scissors":
    print("You picked scissors")
else:
    print("You picked rock")
```

PUTTING IT ALL TOGETHER 3

```
print("Welcome to Rock, Paper, Scissors")

user_choice = input("What is your move? (rock, paper, scissors) ")
print("You picked " + user_choice)

if user_choice == "rock":
    print("You picked rock")
elif user_choice == "paper":
    print("You picked paper")
else:
    print("You picked scissors")
```

LINK 8 - ROCK, PAPER, SCISSORS CONDITIONALS

RANDOM MODULE

RANDOM MODULE

```
import random

# Gets a random number between 1 and 10
number = random.randint(1, 10)
print(number) # 7

print(random.choice(["Alia", "Bill", "Catherine", "Dharmesh", "Eve"]))
```

LINK 9 - RANDOM MODULE

```
import random

computer_choice = random.choice(["rock", "paper", "scissors"])
print("The computer picked " + computer_choice)
```

LINK 10 - ROCK, PAPER, SCISSORS RANDOM MODULE

PUTTING IT ALL TOGETHER 4

```
import random

print("Welcome to Rock, Paper, Scissors")

user_choice = input("What is your move? (rock, paper, scissors) ")
computer_choice = random.choice(["rock", "paper", "scissors"])

print("You picked " + user_choice)
print("The computer picked " + computer_choice)

if user_choice == "rock":
    print("You picked rock")
elif user_choice == "paper":
    print("You picked paper")
else:
    print("You picked scissors")
```

PLAYING THE GAME

PLAYING THE GAME

```
if user_choice == "rock":
    if computer_choice == "scissors":
        print("You Win")
    elif computer_choice == "paper":
        print("You Lose")
    else:
        print("It's a draw")
elif user_choice == "paper":
    print("You picked paper")
else:
    print("You picked scissors")
```

PUTTING IT ALL TOGETHER 5

```python
import random

print("Welcome to Rock, Paper, Scissors")

user_choice = input("What is your move? (rock, paper, scissors) ")
computer_choice = random.choice(["rock", "paper", "scissors"])

print("You picked " + user_choice)
print("The computer picked " + computer_choice)

if user_choice == "rock":
    if computer_choice == "scissors":
        print("You Win")
    elif computer_choice == "paper":
        print("You Lose")
    else:
        print("It's a draw")
elif user_choice == "paper":
    if computer_choice == "rock":
        print("You Win")
    elif computer_choice == "scissors":
        print("You Lose")
    else:
        print("It's a draw")
else:
    if computer_choice == "paper":
        print("You Win")
    elif computer_choice == "rock":
        print("You Lose")
    else:
        print("It's a draw")
```

LINK 11 - ROCK, PAPER, SCISSORS FULL GAME

WANT TO LEARN MORE?

TAKE THE FULL COURSE TODAY

- It's free!
- 10 sessions
- Watch on YouTube in your own time
- Learn to make more games
- Get a KPMG certificate of completion

THANKS :)