ENRIQUE THE CIVIL ENGINEER

BUILDING ATLANTIS

Hello engineers! My name is Enrique and I'm a civil engineer! When I was in fifth grade, I helped my dad to build a shed in my neighbor's backyard. I loved building things and knew I wanted to learn more! I studied physics at Hancock for two years before transferring to Cal Poly to study civil engineering. I was the first one in my family to go to college!

Physics is the study of how objects in our universe interact with each other. Physics explains the effect invisible forces, such as gravity, have on objects! Civil engineers design and create building and structures, such as bridges. It is very important that civil engineers understand physics so they can understand how forces will act on the buildings and structures they design.

Right now, I am working with an architecture company in Amsterdam to build the very first underwater city! Amsterdam, like many cities on Mother Earth, is growing faster than space allows. To make more space for the people of Amsterdam while keeping our planet safe and healthy, we are going to build another city UNDERNEATH Amsterdam! You heard that right -- underneath, in the water! There are many challenges that come with trying out new ideas, especially ones as complicated as this, so I need your team's help to make the fictional underwater world of Atlantis become a reality! Let's get started!

ENRIQUE THE CIVIL ENGINEER

BUILDING ATLANTIS

Our first step in building Atlantis is to drain the water from the area we are building on! Let's get started by entering the excavated space; we must **move a distance of 60 at speed 60**. Since our team is focused on crafting an environment that contributes to a healthy Earth, we are going to save the drained water so that we can refill the space later without wasting any additional water! Since we will have to do this twice, it will be more efficient to make a function for draining and refilling rather than writing the same code twice. To do this, write a function called **DrainAndRefill**. In the **DrainAndRefill function** I need to **repeat** a **forward spin 3 times**. Then I need to **set a face pattern** which will signal that the job is finished!

ENRIQUE THE CIVIL ENGINEER

BUILDING ATLANTIS

Nice work crew! Now that the canal has been drained, our construction team can start building Atlantis! Do a **WooHoo expression** and **animate a forward spin** to celebrate that we got this step done! During construction, it can be hard to keep track of all the different tasks going on at once. Let's do an **animated Zig Zag** to help our construction team and untangle the mess of tasks ahead!

ENRIQUE THE CIVIL ENGINEER

BUILDING ATLANTIS

To help with the construction process we will need to inspect the different building levels. Add lines of code which will help me **turn at a 100 degree angle**, **move a distance of 45 and speed 45**, and **complete a head nod** to signal that the level passed inspection. Then **turn at a 120 degree angle**, **move a distance of 35 at speed 45**, and **complete a head nod**. Finally **turn at a -90 degree angle**, **move a distance of 25 at speed 45**, and **complete a final head nod**!

ENRIQUE THE CIVIL ENGINEER

BUILDING ATLANTIS

Construction is almost done, crew! One of the most important parts of engineering is testing! We need to make sure our city can do everything we hoped it would before we can refill the canal with water and open Atlantis to the public. When **pressing the center main button** **set all the lights to the color blue** and **do a Woohoo expression.** Then **tilt the head to -13 degrees down** and then **tilt the head 20 degrees up.** Now press the button and see if it works. Testing is done!

ENRIQUE THE CIVIL ENGINEER

BUILDING ATLANTIS

Now to refill the space and put the finishing touch on Atlantis! Since we already made the **DrainAndRefill** function, we can use that to complete the refilling task! First, let's get to ground level! **Turn at a 45 degree angle** then **move a distance of 20 at speed 35**. Now **call the DrainAndRefill function** to watch the water that we drained earlier to be refilled into Atlantis! Finally, celebrate our victory with a **mission success sound**!

ENRIQUE THE CIVIL ENGINEER

BUILDING ATLANTIS

Great job team, we successfully built Atlantis! It's so awesome making dreams, like the first underwater city, become reality; and I couldn't have done it without all of your team's help! Thank you! I hope you all remember that no matter how crazy an idea may sound, if you work hard and exercise good teamwork, you can make anything happen! Keep dreaming up new ideas and maybe one day you'll get to walk in an underwater city that you engineered!