1970: WENDY CARLOS and her MOOG SYNTHESISER

eslvideo.com Quiz by: Kary Pedroza Vargas

1. What is the first sound mentioned in the presentation?

○ a.) Square wave

○ b.) Sine wave

○ c.) Sawtooth wave

2. What shape does a sawtooth wave resemble on an oscilloscope?

○ a.) A triangle

○ b.) A square

○ c.) A sawtooth

3. What is a triangular wave described as?

○ a.) A pointed sine wave

○ b.) A flat wave

○ c.) A smooth wave

4. What does a pulse wave look like when visualized?

○ a.) Up down up down

○ b.) Smooth and continuous

○ c.) Jagged and sharp

5. What is the last sound mentioned that is described as colorful?

○ a.) White noise

○ b.) Square wave

○ c.) Triangular wave

6. What does the filter do to the sound?

○ a.) Adds more sound

○ b.) Removes parts of the sound

○ c.) Changes the pitch

7. What does the envelope generator do?

○ a.) Generates the envelope

○ b.) Changes the pitch

○ c.) Creates a new sound

8. What instrument does Wendy Carlos imitate with her sound?

○ a.) Guitar

○ b.) Trumpet

○ c.) Flute

9. What piece of music is mentioned in the presentation?

○ a.) Beethoven's Fifth

○ b.) Bach's Fourth Brandenburg

○ c.) Mozart's Requiem

10. What is the purpose of the solo part in the music?

○ a.) To play all the time

○ b.) To double the orchestra

○ c.) To change the color of the music

11. What does Wendy Carlos add to the sound for a harder attack?

○ a.) A filter

○ b.) An envelope controller

○ c.) A mixer

12. What happens to the vibrato during the sound?

○ a.) It stays the same

○ b.) It gets slower

○ c.) It starts slow and gets quicker

13. What is used to tune the sound?

○ a.) A 440 oscillator

○ b.) A mixer

○ c.) A filter

14. What does Wendy Carlos connect to hear the sound?

○ a.) A keyboard

○ b.) A computer

○ c.) A microphone

15. What does the sound of the sawtooth wave resemble?

○ a.) A flute

○ b.) A trumpet

○ c.) A violin

16. What does the filter control in the sound?

○ a.) The volume

○ b.) The quality

○ c.) The pitch

17. How does the sound change when the knob is turned?

○ a.) It gets louder

○ b.) It gets brighter or duller

○ c.) It disappears

18. What type of sound does white noise resemble?

○ a.) A trumpet

○ b.) Surf or steam sound

○ c.) A piano

19. What is the purpose of the eight track machine?

○ a.) To record sounds

○ b.) To play music

○ c.) To mix sounds

20. What does Wendy Carlos think about her changes to Bach's music?

○ a.) Bach would mind

○ b.) Bach would not mind

○ c.) It is not mentioned

Transcript

let me try and show you how we get some of these sounds first of all none of them exist as a particular sound as they would on an electronic organ there's no magic button marked trumpet or violin or drums you have to build every sound and to start to build these sounds you have to start with something pretty simple here are the simple things we start with there are five of them the simplest one of all is something that any lab technician must have seen at one time or another it's called a sine wave it's very smooth very flute like a little bit more complicated wave is called sawtooth and it's called sawtooth because on a oscilloscope screen it looks just like a sawtooth and uh this one is a little richer a little readier and it resembles a lot of sounds found on home electronic organs something in between those last two and a very useful sound indeed is something called triangular and it's kind of a pointed sine wave so you can see it's a little brighter than a sine wave this one's called pulse wave and i'm just going to show you how it swings into a thing called square wave it's up down up down just like a switch if you flip a switch you're making a pulse wave if it's an even off on off on then it looks on an oscilloscope very symmetrical and it's called a square wave and if i take the time that it's on and make it different from the time that it's off it changes quality listen to it shifts interior it's very useful sound the last of which uh is probably the least useful although you'd never want to be without it it's very colorful very coloristic and it's pure form it sounds like surf or a steam sound it's called white noise now i'll patch this up here into one of my output modules and try and show you how with these primitive sounds we start to get some very musical sounding things first of all here's a sawtooth wave that's coming out of an oscillator going into a mixer coming up into what's called a filter which is going to remove parts of the sound either the top or the bottom part much like bass and treble controls do on your you know high fidelity system and uh by hitting a note on the keyboard now i'm connected up so i'll hear that one sound it's a very low sound it's very bright if i manually turn this knob you'll listen to the sound get considerably duller here it gets very dull down here it's very bright here instead of doing this manually i can do it automatically with what's called an envelope generator it generates the envelope the envelope being this type of motion that i'm shaping the tone with so i'll do it this way that can be speeded up till we almost start hearing a plucked string if we turn that around and make it uh open up instead of closing it does this which was quite a surprise when i first heard it has almost a trumpet like quality quality in this range and i think the best way to show this is a little excerpt from the first album you'll hear a trumpet imitation solo and then you'll hear several of these put

together to show the feeling of an ensemble and they were all built with the refinement of this thing that i've just shown you now not the ensemble [Music] let's uh show you how one of these sounds might be laid in to a piece i have threaded up on the eight track machine which is where other voices have been collected already several of the parts of a piece of music which is on the new album this is the bach fourth brandenburg and the second movement was pretty much played at tempo one element at a time the sound that i'm going to use will be for the solo part which was originally given to a solo violin it will be d in only in those sections on the score where it's not doubling the rest of the string orchestra so that in the 2d sections we'll let the full orchestra carry it and uh that'll make a change of color when the solo part comes in it's a little bit of editorializing on bach i don't think he'd mind uh in this case let's um build a sound that's rather dull on the beginning i can make this have a little bit harder attack and it's a top voice i could add [Music] the vibrato comes in a little after the note sounds [Music] and by patching in another envelope controller which will now take the oscillator that's supplying the tremolo and speed it up during the duration of the sound the vibrato will start slow and get quicker [Music] i don't want to overdo it though we'll get one of those ghastly electronic organ type sounds all right tuning now i have a 440 oscillator take off the bravado it's easier [Music] okay we're in tune everything sounds like it's about right i'll start the a-track and you'll hear all the other components of this score and i'll add in the solo [Music] you