Lecturer 1

Audiodatei

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Transcript

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How I can see your where is the the top box?

Viviane Rehor

Yeah, one second I put it in the. I haven't done it yet, so I'm.

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Just trying to find. The link. Ah, here it is. The chat right, OK. So what is page by the way? Did you design that? Yeah, it looks really nice. OK, so. Where do I go?

Commented [RV1]: Usability: Generally liked (Homepage)

Viviane Rehor

And can you can you share the screen so I?

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Know what you share the screen share the screen? Where is that button?

Sprecher 3

Or I maybe have to click that you're allowed.

Viviane Rehor

Yeah, so now it should work, right?

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So that'll be there. OK, so now you can see what I'm seeing.

Viviane Rehor

OK, so there they are ordered by difficulty. So like the first row are the very easy ones and the last row are harder ones and there is a like a change to Group B button above which goes to even harder ones. So I would suggest do just. One of the ones in the first line and maybe one of the ones in the last line.

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Right. So the first one is like the easy one. Right. OK, so I just select one on randomly. So welcome to step one of the exercise. Take your time on this page. Have a pen and some paper next to you. Don't move on until you are. You've walked through the following steps. Read the problem statement at least two more times. Read every word. Think about how you would solve this problem as a human. Think also about the problems you have seen like this. What pieces or sub goals or patterns come to your mind when you explore the problem? Sub them down on the paper even or odd difficulties report whether an input number is even or odd. Right. So I'm supposed to take my. I don't have a note. And I have this papers so. I can just write. Right. So the question is think about the problem

and write pieces or sub goals or buttons that comes to your mind, right? So we need to read the input. And we need to check if the number is odd or even, so that will be a need to use the module. Right, I think so. Check if it's zero. And if it's zero, do. I need to print something. Whether I need reports? Right. So I guess I need to. Print right? So I'm ready now what I'm supposed to?

Commented [RV2]: Step 1

Commented [RV3R2]: Is fully understood and done.

Sprecher 3

Yeah, it's in the top.

Viviane Rehor

Right corner is the next button.

Commented [RV4]: Usability: Next button not immediatly found.

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Oh, right. Do you have to speak out loud so that you can record that as?

Viviane Rehor

Well, yeah, that would be great if you speak aloud what you think and.

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OK. No, no, I mean the the whole thinking or you don't care about this.

Viviane Rehor

No, it's like if I have the information it it won't. Hurt anyways if I. Yeah, I don't know if. I need it. Yet but OK, so yeah.

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So here are some some girl names you might need for your final program. Did you break down the problem in similar bases? Go to the next step to start with the right alternative alternate event. Read in bias and calculate reminder of or even decision. Yes, that's true. Right. So go to step three, yeah. Build a solution by dragging all pieces from. Left to right. And clicking them together into the correct order. Of goals by speaking them. And you don't need a resolution against hidden input data. By pressing the valuate current. Solution, simple solution and keep them together into the correct meeting them. I'm going to. Write this down. What this means. You might need to merge this up. Goes by splitting them it, it seems to. Me that in one. Hand you need to merge and then split them. Which I don't really understand, but anyway I think I'll move on and see how that relates to, right, right. And then you have tips. Those pieces or some code names? To group parcel piece collections they cannot be moved or used. Or the solution? This is an inactive parcel. Please cannot be used. The complete code fragment with a sub code. Right, so so I'm not sure if that's done here. What, what, what pieces can be used or not because it says here that I cannot really use that one here. I cannot use that one. So that means that this cannot be moved to my solution, right? All right. OK. OK. So just click done. So I will be sleep again and since we and then how can I go to the next slide and give it is right? So I need to drag that to that here. Let's see reading find you. That's really the alternate even out. If reminder. You print and receive, then else print number is old. Set input non to. Is that is this all? Like connected or can I like? I need to move the whole thing here. Right. OK. The set input to prompt for number. Right with message type number right so. Then calculate. Reminder you given decision. Right. OK. So. It's really nice trying. So I'll just, I'll start putting things here and then I will just set reminder to so that we'll let's put them in, in, in order first and then I'm going to join them. Read inside you. And then sets inputs here and then calculate reminder. Would given decision. I am. Set reminder to reminder of invert divide by 2. Thank you. Much doubt. Do I have to use the all all pieces?

Commented [RV5]: Step 2: Is fully understood and done.

Commented [RV6]: Usability: Step 3 explanation not good

Commented [RV7]: Usability: Step 3 tips unclear/overwhelming

Viviane Rehor

The whole pieces, but the red bits are actually like just the headlines to to give you what? The and the.

Commented [RV8]: Usability: Needed additional explanation of tips content

Commented [RV9R8]: It was in general unclear that the pattern labels don't need to be used for the solution

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Ohh I see.

Viviane Rehor

Under the headlines are doing so.

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All right, so.

Viviane Rehor

They don't have these like puzzle bits on the corners, they are. They are not able to be like fitted. With the puzzle pieces.

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That's why you have the code here like alternative and old and calculate reminder for. Or old even. That goes like here, right? Like this this big.

Viviane Rehor

Yeah, it basically describes all the pieces that. Are put under it like.

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So then looks like that. How the sub goals look? And it's just like that. So now what you have to put this somewhere?

Viviane Rehor

And it actually doesn't. Matter for the like to give you if it's correct or not.

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Right. OK. OK. So you don't have to do that either, right? So this is it. I really like the. So if I try to, for example, let's say that I did the mistake and I was about to do that. OK, so it will fit either. If it's not correct. OK. So in order for the students to understand whether, let's say that they have done something like that, they need to evaluate the solution, right? So they go here, evaluate the current solution and. And what do they need to do? Not quite. Try again. These are the results we are testing for input 5 number result input for required number is given. This is your error stack trace. So does this program translate that piece to Python?

Commented [RV10]: Feedback: Error info requires python knowledge … :/

Viviane Rehor

You can actually, even in the program, look at the Python solution on the left side, but I don't want it to make it too obvious, so the students were. Distracted by the Python code, but on the left, if you click continue on the left side, you can see the actual Python code.

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Right. That's nice. So they do need to know Python in order to be able to integrate these these. Yeah. OK. How do I close that?

Commented [RV11]: Same as above

Viviane Rehor

Either continue or there's an X. Yeah, right.

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Yeah. So. Alright, sorry. OK, so I think I think. I I really really liked. It and my it took me a little bit of time in the beginning in order. To understand the because it's like learning. A new language. Understand what you know. This set input two is doing. Did you come up with? This or did you find it somewhere?

Commented [RV12]: Block-based language: Is a new language

Viviane Rehor

And it's uh, it's called blockly. Uh, it's block based language by Google which? You those things, yeah.

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Although it's. Quite clear, I guess, right? Do you aim to introduce that for undergraduate or for for secondary school students?

Viviane Rehor

The like uh, I I talked to, I forgot his name. Like one of the researchers who is exploring now how the school. How the teachers and schools should teach computer science, and he said that in Scottish schools they do way more than in Germany. So I actually didn't know how much like some schools do. Like real like computer science classes in even like the first years of high school and in Germany we don't. So or at least not. When I went to school. So probably it would be OK like I mean it, they need to learn a language beforehand, and this is basically when you get in the process of, OK. You see, I need. These patterns in multiple programming problems so. You have to. Have done like some exercises, so it's not like for total beginners. Even like Quinton said, you do this CS0. Plus which is. Four people who didn't program before, so. Maybe like after that one? So if they did that whole class and started, then they can maybe do in the second semester. Stuff like that.

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I was wondering if you can change the. Is there an option that you can like change the? Like you can introduce more of Python comments instead of this. It's more like.

Commented [RV13]: Block-based language: Is a new language

Viviane Rehor

That it's like real Python code or that I just say the words so that it's closer to.

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Yeah, like. Yeah, it's closer to the Python.

Viviane Rehor

I think like uh, I did actually tweak some of the pieces in later problems so. It's possible to replace the pieces with your own ideas, like what they what the text should be and so.

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So yeah, OK, because it seems, yeah, that's what. But this is maybe my opinion I. Don't know it. Took me a little bit of time. It was very. Is it descriptive? I don't know. Like it's like I was reading, but maybe it is because I have knowledge of Python And programming languages. So I. Was expecting more like. Uh set with input input. Now it was that and then it may be my experience so. Perhaps for people. That's why it's important to actually test this also. Students, you want it to be nice, but you don't have time. It would be it would have been nice in from September that we're gonna teach this course again. We have some like uh control group and the experimental group like we assign some groups and you this with with these students that. You probably have finished by now so.

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Really nice work. I really enjoyed that. I think. Yes, my only concern, but I don't know if that stems from my being an experienced programmer, if that has affected my. But it took. Me a little bit of time to understand what each of the block actually does. Uh, basically, translate what you know, this uh language, let's say.

Commented [RV14]: Design

Viviane Rehor

Yeah, Jack said the. Same alright.

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Other than that, I think it's really nice. I do remember some people saying in in your presentation that. Something about the colors. But now I think it's it makes sense. I don't know. I really like them now, but I agree back then. But now that they can. I can see I think they made sense. I'm not anymore Problematized about the different colors and.

Commented [RV15]: Block-based language: Colourcoding is good

Viviane Rehor

I think it was a bigger problem with maybe even more colors in the presentation and it. Was overwhelming than like this. Like starting with the simpler one with less number of pieces, but yeah.

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So anything from from this program and you know that you would like me to comment on?

Viviane Rehor

Maybe you can do like one of the like more complicated ones just for comparing, because this was. Like the easiest. One so like, yeah.

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OK, so I need.

Viviane Rehor

Yeah, you can click exercises and then maybe go to Group B. And folds down to like one of the last problems there. Like I don't know rainfall problem. Level trade sequence, whatever you want to.

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This one I picked 1 randomly and see what. Alright, so let's see again. So we can have numbers we have. And then we need to write the program to calculate the total right by counting. Only the first day. And count the numbers to replace the total and count the numbers. Of post numbers. And we will count with 10 so with our. Roberts and half. And the small point. So we need to go to the average, right? So count total convergence. And bring down. The numbers, if there was a rainfall, otherwise print no rain. And you have Reds. If there was at least. They both didn't know Americans really. And parents, there was no way. Right. So now we go to Step 2. So is it the same?

Viviane Rehor

Yeah, it's basically.

Sprecher 3

Giving you the the.

Viviane Rehor

Pattern names or subcool labels for the model solution and it's just for comparing your ideas with the the the ones that are incorporated in the model solution. I am. Are you saying so? I at the moment I can't hear you, can you? Maybe I don't know what's happened, but if if.

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I it's muted. I was muted, but I don't know why. I'm so like I see here the like. How do you call this like the plans? But that you don't have like.

Viviane Rehor

The other blocks. The, like, Step 2 is always to just show you the plan name and step three gives.

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OK.

Viviane Rehor

You the block.

Lecturer 1

All right.

Viviane Rehor

Actually can use.

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OK. Right. We should actually put the the you know the sub goals in a in a row and then continue to step three, right. OK. So now I have. To do the same thing, right? OK. So let's see. Here we have. Let's put that here. That's count to 0. It's item are disconnected in there. Are these connected in purpose? Like I should drag the whole thing. Let's see. Set count to 0 for each item.

Commented [RV16]: Step 2: Critique, wish for interaction

Viviane Rehor

English strain. You might need to like separate some of the pieces right?

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That's alright son.

Viviane Rehor

Not always that they have to stick together in the same groups as just like whether reaching the sub goal that they are placed under, right.

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Where's the pain? Where is the least? Read in. Interesting here greater than see your print. Cells with the rains that will go somewhere here. And then I cannot see what it says here in active blue really.

Viviane Rehor

Yeah, this this was basically on the tips thing before. If you click on the small I thing in the top right corner you can read it again. But this is saying that this is a piece that shouldn't be used. Just there to. Complete the sub goal under the headline, so without the loop it wouldn't be a filter list because you need a. Loop to go through the list you want to filter in, but you don't need it for the actual final solution. That's why it's.

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OK. But you may need that. What's that? Right. Then zero. Right. OK. Uh set range to prompt for next. It's like in the list. The rain is supposed to be the least. Right. Right. And then we have set. That's another girl. I don't have the space to organize them properly, said some range is 0, right? And then. What is it did you set? Some rain. This some rain plus day. So I think that will be here. And then sets up areas that calculates the appearance to. To do so here we have the account. We have. We want the total. We want a. Total account and the average size here is a total sound right? It goes somewhere here. They ranging young count plus one. We do have that if there is greater than zero, what do we take this from? The list reading list separate into from for text with message type in a. List of numbers. Type in a list of numbers. Right. So that will be a whole list range. Then with that here it is, OK. So it will be the whole list. And and and and I want access to. The day where is it? Where is it? Where is it? The day for each item. Day in a list. Right from inside the day in the list. Where it though I get it gets a little bit confusing if there is greater than 0. It's great. And then there are said. How can I combine this? That's right, he pays Clayton, then zebras, and count to count plus one because we found the positive number and and and where is the some, some, some, some, some set, some rain to zero. Ohh is little bit composed. Set the rain to some rains. Yes, it will go here. And we need to do. That for each day in the list right like this. And I need to also initialize that to zero, and I think we have a piece. Now let's see just some point to zero set count to 0 for each item day in the list. Do if it's a positive numbers, it count countless ones that range and range plus. Think it will work and put. It here. So what do we need now? So we have to go there. Right. Oh, we need the others. The others is to go. But only ease. Alright, let's see it count. Create text with with candles and set up words. Do some rain plus divided by count and print. OK, that here that will be done and create text with other. I guess that will print the average, right? If I left it here, I think I and I do have to do that here with this set right too. Right. Did I complete it? I think I have completed everything. He does look years.

Viviane Rehor

It looks good.

Sprecher 3

I think it looks good, yeah.

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It rained too. Let's see, we have a list here and then we initialize the sum and the total. The count. Then for each item in the list, which I get, it's a positive number and. Then we we create. Them one by one and then we also. Increase the the sound right and then in the end we check if the count is greater than zero. We calculate the average right, it's complete.

Viviane Rehor

You can try to click the button if it's complete, but it looks really like it does look like the model solution, so it it should be complete, but you can. Click the evaluate button.

Lecturer 1

Let's see. Let's see. I might have missed something. I want it because you guys back over there.

Viviane Rehor

Just uh, for now on the left side, if you if you click on the little arrow like how does it your puzzle look in code right now just. You just like your information like on the bottom, the white thing.

Commented [RV17]: Usability: Workspace size too limited

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Click it on.

Viviane Rehor

The small arrow you can see how. It does look. So you can see the translation to Python.

Lecturer 1

OK, right.

Viviane Rehor

Yeah, but I don't. Do you think this is this helps if? Like for the. So because I didn't want it to put it like open the whole time to not be confusing in the beginning, but like it's not, it doesn't show the model solution, it shows the state of the core in like order the student put the code in.

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I think it does help, it's just the the the same thing that I discussed with you before. I think there is a by the distance between the words that you have here. And see the Python code. It's it's just like. It feels like a whole new set.

Commented [RV18]: Translation pane: Helps

Viviane Rehor

It is another language.

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Yeah, it's like another language, so. I want there if it makes more sense to have like included this in in in a pre session with the students before they introduced to life. I don't know it's just. So learning if you introduce both like that, actually I think it would be much more confusing for the students because it is like learning 2 languages. At the same. Time, yeah. How it feels to me.

Commented [RV19]: Block-based language: Is a new language -> learning 2 at once in cs0

Viviane Rehor

Yeah, I also. Read about some like schools that start with like some block based program which is like scratch or something. And if you come from that it. Might be easy to to go to. Like block play. Even if you didn't learn Python before, but then obviously it it does evaluate your solution based on execution, so it needs to. Like use the Python translation, at least to. Check if the solution is. Correct and read the feedback. You'll need to. Know Python at all at the moment at. Least a bit to read the stack trace.

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Right. And I was just thinking. For that particular problem. That it isn't it more advanced and. I wonder if I was able to piece the to to put the pieces together because I had already the solution in my mind. So in that way, it didn't help me scaffold the solution, so it didn't help me. It didn't help with problem solving, but I had already. Solved the problems in my mind in Python. So from that perspective. Because if I remember correctly, you must have said you or queen didn't remember that this supposed to help problem solving right? Problem solving. Yeah, that much. At this point. But again it. May be because I'm more experienced, right? Like students. What the students would. Have done it wouldn't have. Done the same thing that I did. But I you know, you saw me. I was trying to solve. I was solving the problem and myself. So I was trying to find the pieces that were actually matching what I had in my. Nine what I. Guess student would have done is student. Probably they would have go here. Can I put this back right you can.

Commented [RV20]: Not scaffolding, but she knew solution

Viviane Rehor

You can also the the small like arrow that circles under the information thing that puts it in the like in the beginning. Uh, like in the position where they at the beginning, like under the? Eye in the top right corner. There's a circling arrow and that puts it in. The beginning state.

Sprecher 3

It's it's no, it's in the workspace on the.

Viviane Rehor

I can't. I can.

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Other side the type over here here.

Viviane Rehor

And the that button puts it in the anyway.

Lecturer 1

Right, right. The what? I expect that students would do is they will start putting something like that. They will just try to put things here and then, you know, run not randomly once ever. They think that suits. This bad? They wouldn't really think a lot about solving the problem themselves as I did. They will start putting together pieces. And then they will like that, let's say, and then they will just try to evaluate the solution and then they guide it by.

Commented [RV21]: Trial and error: She thinks students would try a trial and error strategy

Viviane Rehor

To monitor an error way.

Lecturer 1

Yes, exactly. I'm sorry. So in that case, I think. But you provide here the the errors based on Python instead of problem solving.

Sprecher 3

Yeah, yeah.

Viviane Rehor

Yeah. So like if. You if you use variables before you assign them and stuff, it crashes and says OK, this variable isn't isn't. Initialize yet and stuff so.

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So that's that's what I think. I honestly don't know how you you are going to what you're going to do, but I think I would suggest what I would suggest my students is if you are to present these you you have already some examples and this is what you need. To work on. On these particular examples, so in the evaluation button. I would probably try to figure out a way to give more problem solving error messages to my students instead of focusing on the Python on the Python perspective here and. I think that what I would would have done.

Commented [RV22]: Feedback: Not python stack trace, more problem solving feedback

Viviane Rehor

And about the like, I mean from the problem solving scaffolding side, we give the headlines and group like the pieces under a headline to to give the student information about, OK, you need all

these like small sub goals to solve the whole problem. So this is kind of the way we try to. Like the problem solving strategy, what? What do you think about the headlines? Or or.

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I think I think perhaps. I wonder if it would make more sense to create something like. And then if that's possible, like put first the sub goals in a row, something like that. Let's see. Calculates and filter lead reading the list. What is a filter list? Probably you mean if it's positive or negative right? Something like that, and then you have the counter somewhere like here here. OK. Is there another one? And I think it's like, yeah. So that they can have. They said that they would try to fit in the rest of the parcels underneath. Like to start with that so that will scaffold the more their problem solving because they need to start by what do I need to do first. Well, I first need to to to read the list. The don't go. Immediately to the implementation. They just think about sub goals.

Commented [RV23]: Step 2: Interaction wanted

Viviane Rehor

I'll choose sort the sub goals.

Lecturer 1

So let's start first the sub goal so that you can somehow decrease the complexity. And then try to. Try to put pieces in each of these. Gaps here in that way. I think it's more. Scaffolding the problem solving. It's more scaffolded. And then they need to see how they're going to implement it at the sub goals, which is not exactly a problem solving.

Viviane Rehor

I mean that that's also what we already gave them. We like in the beginning. We had the pieces jumbled up under each chat line, but we like we went back to giving them the whole solution as like already stick together pieces for each sub goal because it wasn't really the. To like get them sort out. There was one problem we thought of, but we had in mind that we wanted to, like, have them ordering the sub goal headlines in the second step. But there are sometimes, like even here, it's kind of not really clear if the counter the filter list and they calculate sum. Bid is coming first so there is because they are merged in the end, so it's like somehow included in the while loops and the counter is separated in the initialization in the loop and after the loop. So it's like there's not really an order for the middle piece because they need to. Be merged so. We didn't know how to to give them the yeah, a solution for.

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OK, so so I understand. Yeah, it makes sense, I think then. What is your? Your goal is just to write your masterpiece, so write the paper out of it.

Viviane Rehor

Firstly, a master thesis, but like maybe later paper, but first it's the master thesis.

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For the master thesis, The thing is fine. When it comes down to a research paper. You just need to be very careful on the arguments what you are. What were your aims with the problem solving approach I think. I I'm not yet convinced that it helps with scaffolding the problem solving aspect. It doesn't mean anything about you. It's fantastic. What you have done? Right. It's just, uh, what kind of it? No, no, like. It's so I'm not really saying anything. It's actually really, really nice. I think I like them more than the. I was wondering if it makes sense to have. Like a shorter program rather than a. Bigger one because now you can see that there are lots of blocks that needs to be broken. This may apps little bit of complexity. So maybe. Maybe when they first introduced the plans, it's really

Commented [RV24]: Does not scaffold problem solving

nice to have like as more as more exercise when they can pick the pieces to implement the specific plan. Perhaps 2 sub calls. But when it comes to more it becomes a little bit more complicated. I think. UM.

Viviane Rehor

So would you say like too complicated to do it after C0 or like like to to put those exercises later in the general like?

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It's too complicated to introduce this together with CS0.

Commented [RV25]: Where in developmental sequence? Not during CS0.

Viviane Rehor

And afterwards.

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Would it matter to be introduced afterwards? What would the students gain if? These were introduced afterwards. I think it may be more suitable for. For for school level education, when they transitioning from scratch. Before they go to Python language to see the formal. You know formal language when they come scratch. I think maybe it fits there after the transition from scratch to Python, what fits in between? I think I think that will fit perfectly between scratch and Python at the school level, but not at the same time introducing it the same as it happens in C0, because we have to introduce Python. But here it is another piece of work with another language and the old another kind of complexity. So I think. It fits better at school level when the students transitioning from scratch to a formal language. That's my opinion, right? Doesn't really mean that.

Commented [RV26]: Proposition: Transition from Scratch to block-based language (put SPPs in between)

Viviane Rehor

I I I I when I read papers about like studies with scratch and also kind of like they did also. Kind of like. A puzzle with scratch pieces and stuff. I was like, OK, this is actually what we are doing, just like my version has more complicated. Problems, but. It's it's the step up.

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It gets more. Complicated problems. So my my, my, my. My question is if the student is asked about to solve these complicated problems, they would have probably a good understanding of Python, or at least they would have already pieces of knowledge of Python that would allow them to solve this problem. So what do they actually gain? From this UM. And their engagement with it, with ads and other type of complexity in in their thinking. That's why I see it a little bit more of a transitioning. From totally scratch based languages to block based languages to something that includes both a formal but also a block based and then you can actually go and transition to a formal based language. So it's like in, in in the intermediate step I think.

Commented [RV27]: After learning python, what do they gain -> better before

Viviane Rehor

So, like the original Parsons problems that you also use in some exams and stuff would like be the next step because it really includes Python code and.

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Well, to be honest, no. I thought you loved some passwords. But the ones we use, it's mostly more like when you have presented something in Python, let's say in an example with a goal like this, and then I just want them to exercise something to remember to remember how the call the the goal was implemented in the class, let's say. And let let's start by putting. It together here it. Is just put the pieces together, but after they have already seen it in the class. So just as a recall mechanism.

Commented [RV28]: Purpose of PPs: Recall content you already learned

Yeah, but you see, it's like a recall mechanism I'm using as a recall mechanism, but not as something that can scaffold problem solving. I am. I think I think I think the the, I think the major my major concern here is a little bit of the complexity in, in, in the language that it's it is a new language. And I'm not sure that it can go along with learning Python from. It's as a phone it. It's a little bit of extra complexity that is my major concern, but I could definitely see it and I could definitely use it. Let's say I was teaching at secondary schools. And I have. Already introduced students to scratch, and now we were about to start Python before we start Python. Perhaps I would dedicate to three weeks working with that. And that will. Be probably a scaffolding visiting a scaffolding before we actually go to Python. To transition to a more formal language.

Commented [RV29]: Same as above

Commented [RV30]: Where to place it in education? After Scratch before Python.

Viviane Rehor

Yeah, yeah. Like one of the arguments was also to like, which only goes if you do lots of those problems that you recognize, that you use the same patterns in a lot of problems, which, like obviously you just done two and one was really small, so it didn't come up now. But like, for practicing to see that it's actually like. Programming is about combining always the same plans to other like super goals or whatever. So like about that. So that would be probably like the kind of the. Yeah, the idea that they get out of it so that they they are always doing this strategy of putting together plans and patterns.

Lecturer 1

And yeah, I think also I would like perhaps the idea of. If it's being induced in a more informal way, I would create. So the students had to combine as I demonstrated here, like the WhatsApp goal goes, first WhatsApp goals goes next. And what do you need to calculate after that? Because I think the major problems that the students had is not with the sick bags, but basically how they combine us is how they combine the sub goals and every side. I mean, this is like a major sub goals, but you may have smaller sub goals and sub goal to sub goal so perhaps. I could I could try to create, uh, problems with just sub goal labels, a lot of sub goal labels and then ask them to. Put them in their in in the order in the right order.

Viviane Rehor

So just small is like smaller sub goals then.

Lecturer 1

So instead of all these details that you give here like print that print the other one prompt the user which adds the complexity I would probably. Be more abstract in the description of this blocks like instead of having the if statement there. The whole if statement perhaps name that I think you have named it somewhere. If not here, I think in the previous one like.

Viviane Rehor

Alternate thing.

Lecturer 1

Yeah, alternates, alternate or decision make it make a decision about whether it's positive or negative and stuff like that a little bit more abstract. A level more abstract than it is presented here, and that that will actually make more sense in in scaffolding problem solving because that is how to put actually the sub goals in the right order sub goals and.

Viviane Rehor

So more more problem specific and less messy language.

Lecturer 1

Yes, right. OK. I don't have anything else, I I don't.

Commented [RV31]: Pattern labels: Should be less abstract.

Viviane Rehor

Just like if I have any questions that I want, but I think we talked about most of it like where you would place those exercises and how they compared to normal persons, puzzles and stuff. So I think we talk like just like these. The pieces that are kind of grayed out or like the very light pieces that. Do you think that, like, more distracting than they are actually helping? Because, like we thought, why we're creating, OK, you can't make. A filter list without the list loop. So if you want to have the pattern filter list, you need the loop, but in the final solution you obviously only need one block that does the loop and that's why we put them there because it wouldn't be complete. Without them under the headlines. But what do you think about those?

Lecturer 1

Sorry I lost you. So you said that we said something about the list, sorry.

Viviane Rehor

No, no worries. Like the grayed out pieces, like the very light ones that you're actually not supposed to use in the final. Solution, right? And then to have complete. Uh, like the complete code for one sub goal, so the filter list uh pattern wouldn't be complete without a loop block, but you actually need only one loop block and the final solution because you merge multiple patterns with loops, kind of. That's where we put those. Grayed out pieces under the headlines.

Lecturer 1

He did not pay any. Attention, to be honest to this, maybe I I should have. OK. I don't know, it's not develop repeat condition for it's. I'm not sure what they do on uh, sorry.

Sprecher 3

So if you click the can you click the beginning state? Uh, like the circle. Uh arrow again to that we get to the the first segue.

Lecturer 1

Right.

Viviane Rehor

So yeah, you have all these like patterns that you use all these sub goals and underneath or obviously the code that fulfills the sub goal and for the filter list for example. You need a loop to do a fuzzy list. You can't filter a list without doing the loop and looking each item, so that's why we we need a loop. Block there to have. A complete pattern, but then in the final solution you only need one loop block because you merge. And that's why we have. It but like, I felt like everyone who tried it so far didn't really. Look at them and like.

Lecturer 1

I think it's because most most people are experienced, right that you interview so. So basically this is to notify that this block should be put under a for loop and these blocks. Could also be part of a fall, right?

Viviane Rehor

Yeah, yeah, it helps for that. And to like the the headline wouldn't be correct if you didn't have a loop block in the like in the pieces underneath it because they need a loop block for it calculating the sum of loop or for filtering a list, you need a loop block, so it would be wrong to leave it out.

Lecturer 1

I think for the students it would make sense if you explain. Yeah, because I didn't understand what exactly it's the great the great blog. But I think for the students, it will help them. A lot, but even. If you don't present it as as perhaps it adds a little bit more complex the presenting it as a block itself. So if is it possible to have like a bottom? Yeah, we do have. A bottle and then perhaps explain how this block as a hint like give them a hint which is.

Commented [RV32]: Greyed out pieces make sense but need to be explained better

Viviane Rehor

About the problem. Like from the clothing side, what did yes. Yes, yeah.

Commented [RV33]: Give hint for block instead of greyed out loop block.

Lecturer 1

Something like that. I think that would probably be more helpful than adding another block. Sorry, students. I think the question is because you want, I think I think once you and Quinton want to do is be introduced to that for the introductory computing classes, right? How many have you interviewed out there? Lecturers in?

Viviane Rehor

UM, I have interviewed the. Jeremy and not Jeremy, like Brandon, I think the.

Lecturer 1

Brandon he was yes in this.

Viviane Rehor

And he he was a teacher in schools. So I interviewed him and he. He suggested to do it like. Easier in a way that you. Because people, sometimes students, are overwhelmed by big problem descriptions and just like have them solve sub problems within a problem description and then already like say OK that was great, you solve the first like sub goal and going like that to to help them staying motivated for big problems. So kind of from that direction. Yeah, I yeah, that's mainly what he said. But he said is this could be introduced and like. I think after. The first two years. Students commit to doing like computer science as an exam part and like kind of in the. Beginning of that, he suggested it.

Lecturer 1

OK. OK. So for for, for the university level, I think because I was a teacher as well in secondary school. I would definitely use it, but as. I said before. Before introducing a formal language and after space and my reluctance is mostly on, as I said, introducing it along with Python when the students need to dedicate a lot of time to learn the seed decks and understand. Their things and.

Commented [RV34]: What does she do? Did teach schools, now teacher at CS0 Uni

Viviane Rehor

Because you don't learn anything about the syntax.

Lecturer 1

Yeah, bad if you could. If there was a. Way that these blocks can be in more alignment with the syntax of Python. I think then perhaps they would have more potential of being used in parallel with the courses 0.

Commented [RV35]: Placement in Education: If blocks where python language, perfect to use in CS0 class.

Viviane Rehor

Yeah, yeah, that's that's actually a good idea because I I don't think it would be. Like there is already a translation for every blog in Python so.

Lecturer 1

Yes, and. Yeah, that's that's cool. I think it's really, really, it's really nice. I really enjoy it. It comes to in the end for your masterpiece is is an excellent work, but when it when it comes to publication, then there is where you need to think about what you are arguing for, yeah. What? Yeah, and. You need probably. You need more interviews because now probably about C0 is probably more interviews with lecturers from undergraduate departments to see how they they see it fitted fit in.

Viviane Rehor

Yeah, I do want to do another interview with Jeremy. He has. I think he has said he wanted to do it, but we haven't found a date yet. So let's see what he says. But yeah.

Lecturer 1

If I, if I remember correctly, was it. Was it him that he made one of the comments or? Was it there? I said that it seems more complicated.

Viviane Rehor

Yeah, no, I think.

Sprecher 3

Everything you said.

Viviane Rehor

It it was, it was more complicated.

Lecturer 1

It's fine. I think. Uh, whatever they say, it may be more complicated because as you said in the beginning, it introduces in your language, so it comes down to your arguments in the end of your face. Is like, how do people feel about that and where do they think that it's it's going to benefit most? Students is that a graduate student or is it, uh, secondary school students that are transitioning from base languages to more formal uh based languages? And that we, I would argue for that one, for example. Which is fantastic. It's a really nice job. It must have taken like ages to create all these things.

Viviane Rehor

Yeah, it like. Actually, the floppy thing is really nice to let you like create your own blogs and uh, translate them. I mean but, but it took some time, but I've I felt it was really like easy to change stuff. I mean, some some stuff is like sad and you can't do anything about it, but. For the blocks, there's really a lot. Help that yeah, lets you change them and adapt them to what you want them to be and stuff.

Lecturer 1

Right. And it's it's. Really nice. We've been really nice work. And Quentin, I remember when he was excited about, about, about this. Anything else? Sorry, I don't know. What else would you like me to, just to say? You know.

Viviane Rehor

It was already really, really helpful. Like you said, a lot of like good points to think about and to include in the in the masterpieces and stuff, so.

Sprecher 3

It was very helpful.

Viviane Rehor

Thank you very much.

Lecturer 1

I are you. So you're only now gonna interview uh teachers, lecturers, tutors, perhaps?

Viviane Rehor

Yeah. Yeah, like. At the moment, like since we couldn't do only students, it's more like OK, giving getting a lot of different opinions from different points of views. That's the goal. So I will do Jeremy and then I talk with Quinton will like what he thinks. Who would be also nice to interview, but.

Lecturer 1

Yeah, but OK, but OK, so. OK. Teachers probably unit teachers at the school level if you have also sample from from Germany it would be nice to be like would be included. And as I said lecturers. Tutors just tutors probably would give you really, really good experiences because they are more in in on the students you know they are like, they're acting more closely so they can actually give you good experiences about that. And I think that's pretty, pretty much all. You don't need anything else if you can't find students and you can't find students. Is what it is. You speak? Yeah, it is. What you say that you speak with? Uh, the teachers perspectives. Good.

Viviane Rehor

Thank you very much. That's really nice.

Lecturer 1

OK, good. Have a nice. Good afternoon there then what what time is there? It's three, right?

Viviane Rehor

Yeah, well, one one hour later then.

Lecturer 1

OK, OK. OK, good. Have a nice afternoon then.

Viviane Rehor

You too.