**Skill Objective**

1. The objective is used to help students to learn differentiation problems. It can also be used by teachers to teach their students and checking answers. Sometimes it can also be used to lookup solutions to complicated expressions reducing the need to solve them manually. Sometime researches may need to do quick differentiation while reading/developing research papers. The future objective to extend this to more complication functions like doing limit problems, integration, solving equations/optimization problems, solving differential equation etc.

**Steps**

1. Create Alexa Skill and set up Amazon AWS lambda
2. In Amazon Lambda use node js and upload the calculus.zip file.
3. The calculus zip file contains the index.js and the necessary dependency libraries under node modules.
4. In the amazon skill, add English US, English India, and English UK etc. and copy the json files into the json editor. This will create all the intents, utterances etc. Also, Note all the json files are same for all the different languages so we can copy the same content every time.

**Sample Dialogs**

mathematics solution

direct differentiate x x power three

yes

direct differentiate x x sine

yes

direct differentiate x x sine one

repeat

no

mathematics solution

start create a x power two

continue assign b a add one

continue assign c b sine

continue assign d c multiply five

solve differentiate x b

mathematics solution

start create a x power two

continue assign b a sine two

solve differentiate x b

Sample Outputs

**Sample Dialogs**

mathematics solution

direct differentiate x x power three

yes

direct differentiate x x sine

yes

direct differentiate x x sine one

repeat

no







