**1. (modified version of question from Summer Exam 2023) (6 marks)**

*ChatGPT is a powerful language model developed by OpenAI that has the ability to generate human-like text, making it capable of engaging in natural language conversations.*

**i)**

chatgpt power languag model develop openai abil gener human text make capabl engag natur languag convers

* Case folding is a process that converts each character to the same case, either lower or upper.
* Punctuation and stop word removal is a process that removes all punctuation from the text as well as stop words that are contained in a list used by the algorithm.
* stemming is a process that removes all prefixes, suffixes, and converts a word to the most basic form.

ii)

Frequency: 2

Number of terms in doc: 16

N = 500

Df = 50

**2. (modified version of question from Summer Exam 2018) (3 marks)**

d=< 0.30,  0.25,  0.1,  0.02,  0.00,  0.11 >

q=< 0.35,  0.00,  0.3,  0.11,  0.02,  0.20 >

*3.(modified version of question from Summer Exam 2022) (6 marks)*

Calculated using Microsoft Excel (excel file will be attached

After 11 iterations page rank looks like this:

Declaration:

“I am aware of what plagiarism is and include this to confirm that this work is my own

and, further, I confirm that this work was not, wholly or in part, produced by

generative AI tools”