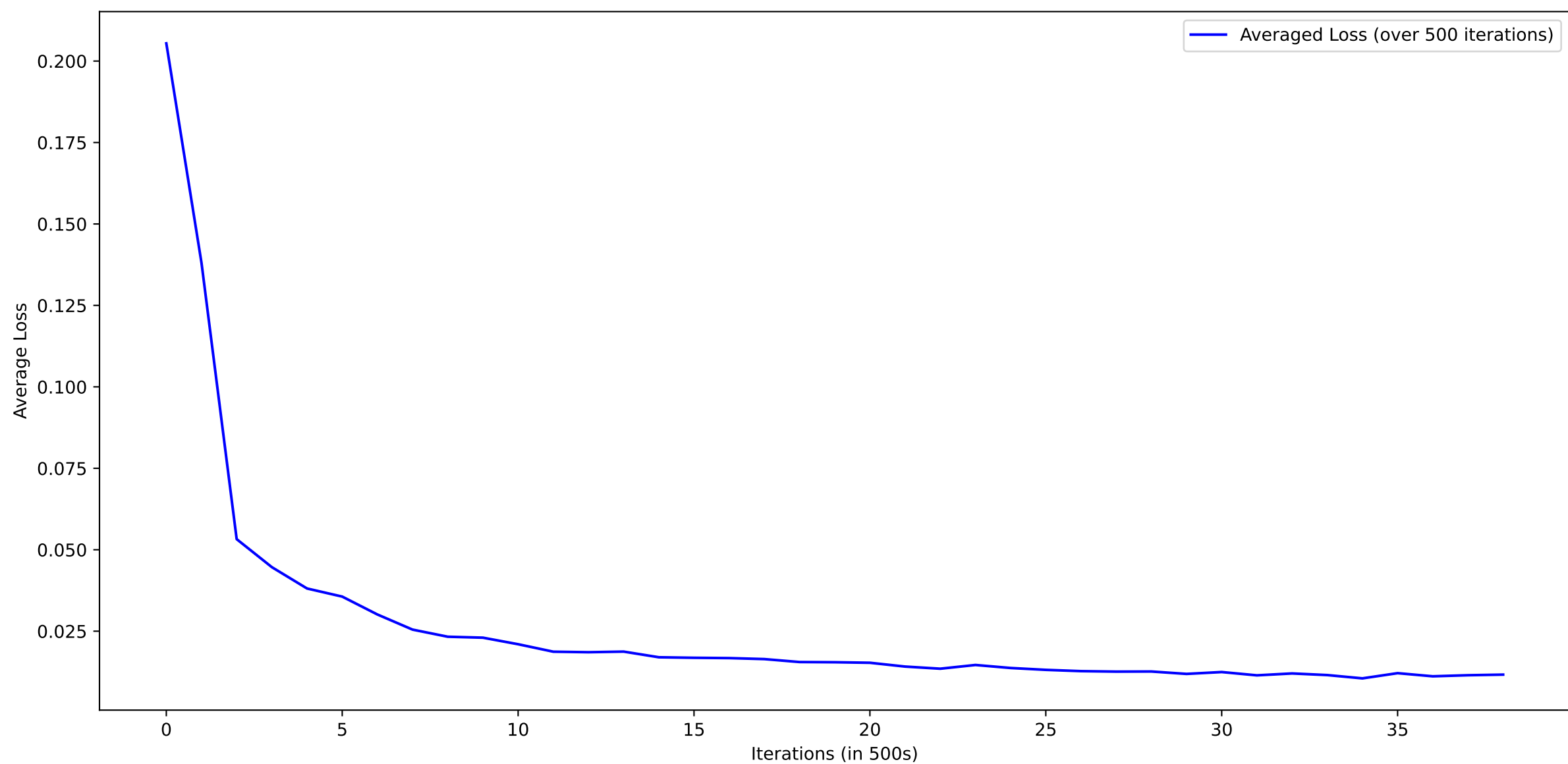


ANSWER A1:

[Visually we can see that it is a convex plot and hence the local minima and global minima are the same]

Convex plots are deduced as convex due to the presence of concentric circles or ellipses.

Minima is usually located in the middle which is 0 in this case.]



ANSWER A1:

The plot shows the convergence behavior of the average loss function over 500 iterations of stochastic gradient descent. Optimization process is working as we can see the steady decrease in loss and the smooth trend also supports this argument that is a stable convergence.

Declaration of Originality

I confirm that this assignment is my own work and I have

- Read and understood the guidance on plagiarism in the Course Handbook, including the University of Glasgow Statement on Plagiarism.
- Clearly referenced, in both the text and the bibliography or references, all sources used in the work.
- Fully referenced (including page numbers) and used inverted commas for all text quoted from books, journals, web etc. (Please check with the Subject which referencing style is to be used).
- Provided the sources for all tables, figures, data etc. that are not my own work.
- Not made use of the work of any other student(s) past or present without acknowledgement. This included any of my own work, that has previously, or concurrently, submitted for assessment, either at this or any other institution, including school.
- Not sought or used the services of any professional agencies to produce this work.
- In addition, I understand that any false claim in respect of this work will result in disciplinary action in accordance with University regulations.

DECLARATION

I am aware of and understand the University's policy on plagiarism and I certify that this assignment is my own work, except where indicated by referencing, and that I have followed the good academic practices noted above.

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- 31.1 The University's degrees and other academic awards are given in recognition of a student's personal achievement. All work submitted by students for assessment is accepted on the understanding that it is the student's own effort.
- 31.2 Plagiarism is defined as the submission or presentation of work, in any form, which is not one's own, without acknowledgement of the sources. Plagiarism includes inappropriate collaboration with others. Special cases of plagiarism can arise from a student using his or her own previous work (termed auto-plagiarism or self-plagiarism). Auto-plagiarism includes using work that has already been submitted for assessment at this University or for any other academic award.
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Work may be considered to be plagiarised if it consists of:
 - a direct quotation;
 - a close paraphrase;
 - an unacknowledged summary of a source;
 - direct copying or transcription.

With regard to essays, reports and dissertations, the rule is: if information or ideas are obtained from any source, that source must be acknowledged according to the appropriate convention in that discipline; and any direct quotation must be placed in quotation marks and the source cited immediately. Any failure to acknowledge adequately or to cite properly other sources in submitted work is plagiarism. Under examination conditions, material learnt by rote or close paraphrase will be expected to follow the usual rules of reference citation otherwise it will be considered as plagiarism. Departments should provide guidance on other appropriate use of references in examination conditions.

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