**Python DNA Analysis**

1. **DNA Match**

The user enters a DNA file of a suspect and a DNA sample (in the form of a list of codons). The tool calculates the number of codon matches from the DNA sample within the suspect DNA file. The user can determine the minimum number of matches required for the investigation to continue. The response is written to an output file given by the user.

1. **DNA Replication**

The user enters a file containing the genetic code of a single strand of DNA. The tool calculates and writes both the original and complementary strand of DNA to an output file given by the user.

1. **DNA Transcription**

The user enters a file containing the genetic code of a single strand of DNA. The tool transcribes the DNA to mRNA and writes the output to a file given by the user.

1. **mRNA Translation**

The user enters a file containing the genetic code of an mRNA strand. The tool translates the genetic code to the corresponding amino acids in the polypeptide chain before it folds into a protein. The amino acid sequence is written to a chosen output file.

1. **Random DNA Generator**

The user can enter the total number of DNA bases and the tool creates a random DNA strand that many bases long. Writes the strand to an output file given by the user.

1. **Random DNA Mutation**

The user enters a file containing the genetic code of a strand of DNA. The tool randomly inserts a genetic mutation into the DNA sequence and writes the output to a file given by the user.

1. **Information**

A summary of each of the tools options is given.

1. **Exit**

The lab is closed down and the user is taken back to the command line.