Lab 8: Strings, Functions and Bioinformatics...
TABLES

Nucleotides:

Nucleotide base	Letter
Adenine	A
Cytosine	C
Guanine	G
Thymine	T

Nucleotide base pairs

$$\boxed{\begin{array}{l}\mathsf{compl}(\mathsf{A}) = \mathsf{T}\\ \mathsf{compl}(\mathsf{T}) = \mathsf{A}\\ \mathsf{compl}(\mathsf{C}) = \mathsf{G}\\ \mathsf{compl}(\mathsf{G}) = \mathsf{C}\end{array}}$$

Amino Acid	Three-letter code	One-letter code
Alanine	*Ala*	A
Arginine	*Arg*	R
Asparagine	*Asn*	N
Aspartic acid	*Asp*	D
Cysteine	*Cys*	C
Glutamic acid	*Glu*	E
Glutamine	*Gln*	Q
Glycine	*Gly*	G
Histidine	*His*	H
Isoleucine	*Ile*	I
Leucine	*Leu*	L
Lysine	*Lys*	K
Methionine	*Met*	M
Phenylalanine	*Phe*	F
Proline	*Pro*	P
Serine	*Ser*	S
Threonine	*Thr*	T
Tryptophan	*Trp*	W
Tyrosine	*Tyr*	Y
Valine	*Val*	V

Table 1: Amino Acids.

First Nucleotide	Second Nucleotide							
	T		C		A		G	
T	TTT → *Phe*	F	TCT → *Ser*	S	TAT → *Tyr*	Y	TGT → *Cys*	C
	TTC → *Phe*	F	TCC → *Ser*	S	TAC → *Tyr*	Y	TGC → *Cys*	C
	TTA → *Leu*	L	TCA → *Ser*	S	TAA → **Stop**		TGA → **Stop**	
	TTG → *Leu*	L	TCG → *Ser*	S	TAG → **Stop**		TGG → *Trp*	W
C	CTT → *Leu*	L	CCT → *Pro*	P	CAT → *His*	H	CGT → *Arg*	R
	CTC → *Leu*	L	CCC → *Pro*	P	CAC → *His*	H	CGC → *Arg*	R
	CTA → *Leu*	L	CCA → *Pro*	P	CAA → *Gln*	Q	CGA → *Arg*	R
	CTG → *Leu*	L	CCG → *Pro*	P	CAG → *Gln*	Q	CGG → *Arg*	R
A	ATT → *Ile*	I	ACT → *Thr*	T	AAT → *Asn*	N	AGT → *Ser*	S
	ATC → *Ile*	I	ACC → *Thr*	T	AAC → *Asn*	N	ACC → *Ser*	S
	ATA → *Ile*	I	ACA → *Thr*	T	AAA → *Lys*	K	AGA → *Arg*	G
	ATG → *Met*/**Start**	M	ACG → *Thr*	T	AAG → *Lys*	K	AGG → *Arg*	G
G	GTT → *Val*	V	GCT → *Ala*	A	GAT → *Asp*	D	GGT → *Gly*	G
	GTC → *Val*	V	GCC → *Ala*	A	GAC → *Asp*	D	GGC → *Gly*	G
	GTA → *Val*	V	GCA → *Ala*	A	GAA → *Glu*	E	GGA → *Gly*	G
	GTG → *Val*	V	GCG → *Ala*	A	GAG → *Glu*	E	GGG → *Gly*	G

Table 2: Genetic Code.