1. KELOMPOK 1

a. Nukleotida

```
ATGCGAAGGAGGAAAAGATCAGATATGAAACGGTCAATCTCTATTTTTATTACGTGTTTATTGATTACGT
TATTGACAATGGGCGGCATAATGGCTTCGCCGGCATCAGCAGCAGGGACAAAAACGCCAGTAGCCAAGAA
TGGCCAGCTTAGCATAAAAGGTACACAGCTCGTTAACCGAGACGGTAAAGCGGTACAGCTGAAGGGTATC
AGTTCACACGGATTGCAATGGTATGGAGAATATGTCAATAAAGACAGCTTAAAATGGCTGAGGGACGATT
GGGGTATCACCGTTTTCCGTGCAGCGATGTATACGGCAGATGGCGGTTATATTGACAACCCGTCCGTGAA
AAATAAAGTAAAAGAAGCGGTTGAAGCGGCAAAAGAGCTTGGGATATATGTCATCATTGATTGGCATATC
TTAAATGACGGTAATCCAAACCAAAATAAAGAGAAGGCAAAAGAATTCTTCAAGGAAATGTCAAGCCTTT
ACGGAAACACGCCAAACGTCATTTATGAAATTGCAAACGAACCAAACGGTGATGTGAACTGGAAGCGTGA
```

b. Protein

```
MKRSISIFITCLLITLLTMGGIMASPASAAGTKTPVAKNGQLSIKGTQLVNRDGKAVQLKGISSHGLQWY
GEYVNKDSLKWLRDDWGITVFRAAMYTADGGYIDNPSVKNKVKEAVEAAKELGIYVIIDWHILNDGNPNQ
NKEKAKEFFKEMSSLYGNTPNVIYEIANEPNGDVNWKRDIKPYAEEVISVIRKNDPDNIIIVGTGTWSQD
```

2. KELOMPOK 2

a. nukleotida

```
GGAGACCTCGAGTGGAACCCGTTCGTTGGGGACTACACCTGGACGGACTTCTCAAAGGTGGCCTCGGGCA
AATATACTGCCAACTACCTCGACTTCCACCCCAACGAGGTCAAGTGCTGTGACGAGGGCACATTTGGAGG
CTTCCCAGACATAGCCCACGAGAAGAGCTGGGACCAGCACTGGCTCTGGGCGAGCGATGAGAGCTACGCC
GCCTACCTAAGGAGCATCGGCGTTGATGCCTGGCGCTTTGACTACGTGAAGGGCTACGGAGCGTGGGTCG
TCAAGGACTGGCTCAACTGGTGGGGCGGCTGGGCCGTTGGCGAGTACTGGGACACCAACGTTGATGCACT
```

b. protein

```
GDLEWNPFVGDYTWTDFSKVASGKYTANYLDFHPNEVKCCDEGTFGGFPDIAHEKSWDQHWLWASDESYA
AYLRSIGVDAWRFDYVKGYGAWVVKDWLNWWGGWAVGEYWDTNVDALLNWAYSSGAKVFDFPLYYKMDEA
FDNKNIPALVSALQNGQTVVSRDPFKAVTFVANHDTDIIWNKYLAYAFILTYEGQPVIFYRDYEEWLNKD
```

3. KELOMPOK 3

a. Nukleotida

```
RHYISVSGVPSSKMVLGMPLYGRAFQNTNGPGTPFSGVGEGSWEQGVWDYKALPRPGATEHVDPNIGASW
SYDPQTRTMVTYDNVAVAEIKANFVRGAGLGGGMWWESSADRGGKTANKADGSLIGTFVDGLGGVFALDQ
SPNNLDYPESKYDNLRAGFPGE
```

b. Protein

```
AGCGGGGGGAAGAATTGAGCAGTAGGCGACTGGAATCCGGCCGTCTCAATGTTGGTAAAATACCGGGTGT
TCGCTCCGTTCCTTTGGTCCGGTCTTTATCGTCGTGTGTTTTGTTCGTTGCATCTGCATACTATCCACGC
TGGACGAGTATTATCACCTCCGATACAGGAGAAACATGCACAAGGGTACCTATCAGTGCAGTACTTTGTC
```

4. KELOMPOK 4

a. Nukleotida

```
CCCTGATGATAAGTTCTCAGTAAACACTTACGATGTATTCCAAAAGCAACTTACAATTCAAGGTGCCTTC
GTTAATCCTTACACTTTTGAAGACTCAATTGCCCTTCTTTCTTCTGGGGTTGTTGACCCACTACCACTCT
TCTCACATGAATTAGATCTTGATGGTGTGGAAGACTTTGTTAGTGGTAAGTTAGGTAAAGTTTCAAAAGC
TGTTGTTAAGGTCGGCGGTGAAGAAGCATAA
```

b. Protein

```
MEALVLTGKKQLEIEDIKEPEIKPDEVLIHTAYAGICGTDKALYAGLPGSASAVPPIVLGHENSGVVTKV
GSEVTNVKPGDRVTVDPNIYCGQCKYCRTQRPELCEHLDAVGVTRNGGFEEYFTAPAKVVYPIPDDVSLK
```

5. KELOMPOK 5

a. Nukleotida

```
LSDPYHFTVNAAAETEPVDTAGDAADDPAIWLDPKNPQNSKLITTNKKSGLVVYSLEGKMLHSYHTGKLN
NVDIRYDFPLNGKKVDIAAASNRSEGKNTIEIYAIDGKNGTLQSITDPDRPIASAIDEVYGFSLYHSQKT
GKYYAMVTGKEGEFEQYELNADKNGYISGKKVRAFKMNSQTEGMAADDEYGSLYIAEEDEAIWKFSAEPD
```

b. Protein

```
CTGTCTGATCCTTATCATTTTACCGTGAATGCGGCGGCGGAAACGGAGCCGGTTGATACAGCCGGTGATG
CAGCTGATGATCCTGCGATTTGGCTGGACCCCAAGAATCCTCAGAACAGCAAATTGATCACAACCAATAA
AAAATCAGGCTTAGTCGTGTACAGCCTAGAGGGAAAGATGCTTCATTCCTATCATACCGGGAAGCTGAAC
AATGTTGATATCCGTTATGATTTTCCGTTGAACGGAAAAAAAGTCGATATTGCGGCGGCATCCAATCGGT
CTGAAGGAAAGAATACCATTGAGATTTACGCCATTGACGGGAAAAACGGCACATTACAAAGCATTACGGA
```

6. KELOMPOK 6

a. Nukleotida

```
CAACCGCTCGAGACTGGCTGAGACGCGCTTTCGATGCATATTACGATTTAAAAGCCATATGCGATAGAGT
CTATGTGGTGGGACTTTCCATGGGTGGTGTGATTGCTCTGATCCTTGCCTCTCAGATGAATCCTCCCAAA
CTGGTCACACTGGCTGCAGCAACTCATGTGTTCGACAAAAGAATAGTTCTCACACCGATTCTGAAGTTGT
TTACGAAGAAGATGCCTTGTGAAAACACAGAAAAGTACGAAGACCCGGACATCGAATACCTGAGAAAAGA
GTACTGGTCTTACAACTGGCCAAAACAGGCAGCTGAGCTTTACAAACTCATGAAACTGGCAAGAAAGAGT
```

b. Protein

```
KKMPCENTEKYEDPDIEYLRKEYWSYNWPKQAAELYKLMKLARKSVSKITSATLVVAAKNDNMVPMKAAE
FIYNNIRSEKRKLLVFEKSGHVLSNDVEKEDVTRAVIEWLKGE
```

7. KELOMPOK 7

a. Nukleotida

```
CCCGGTACCGATAACCGTGTCATCAACTACACAGCCGACTACAGACCCAACGGCAACTCCTACCTCGCCG
TCTACGGCTGGACCCGCAACCCGCTGATCGAGTACTACGTGGTCGAGAGCTTCGGCACTTACGACCCGTC
GACGGGCGCCACCCGCATGGGCAGCGTGACCACCGACGGCGGCACCTACAACATCTACCGCACGCAGCGC
GTCAACGCGCCCTCCATCGAGGGCACCAAGACCTTCTACCAATACTGGTCTGTGCGCACCTCCAAGCGCA
```

b. Protein

```
MVNFSTLFLAASTAALAAAAPSIEKRQTLTSSATGTHNGYYYSFWTDGQGNIRFNLESGGQYSVTWSGNG
NWVGGKGWNPGTDNRVINYTADYRPNGNSYLAVYGWTRNPLIEYYVVESFGTYDPSTGATRMGSVTTDGG
```

8. KELOMPOK 8

a. Nukleotida

```
CATCCACACGGAGACCGCCAGCTGGATGTTCGGCGTCCCCCGGGAGGCCGTGGACCCCCTGATGCGCCGG
GCGGCCAAGACCATCAACTTCGGGGTCCTCTACGGCATGTCGGCCCACCGCCTCTCCCAGGAGCTAGCCA
TCCCTTACGAGGAGGCCCAGGCCTTCATTGAGCGCTACTTTCAGAGCTTCCCCAAGGTGCGGGCCTGGAT
TGAGAAGACCCTGGAGGAGGGCAGGAGGCGGGGGTACGTGGAGACCCTCTTCGGCCGCCGCCGCTACGTG
CCAGACCTAGAGGCCCGGGTGAAGAGCGTGCGGGAGGCGGCCGAGCGCATGGCCTTCAACATGCCCGTCC
```

b. Protein

```
MRGMLPLFEPKGRVLLVDGHHLAYRTFHALKGLTTSRGEPVQAVYGFAKSLLKALKEDGDAVIVVFDAKA
PSFRHEAYGGYKAGRAPTPEDFPRQLALIKELVDLLGLARLEVPGYEADDVLASLAKKAEKEGYEVRILT
ADKDLYQLLSDRIHVLHPEGYLITPAWLWEKYGLRPDQWADYRALTGDESDNLPGVKGIGEKTARKLLEE
WGSLEALLKNLDRLKPAIREKILAHMDDLKLSWDLAKVRTDLPLEVDFAKRREPDRERLRAFLERLEFGS
```

9. KELOMPOK 9

a. Nukleotida

```
TATCTGGTTGATCCTGCCAGTAGTCATATGCTTGTCTCAAAGATTAAGCCATGCATGTCTAAGTATAAGC
AATTTATACAGTGAAACTGCGAATGGCTCATTAAATCAGTTATCGTTTATTTGATAGTTCCTTTACTACA
TGGTATAACCGTGGTAATTCTAGAGCTAATACATGCTTAAAATCTCGACCCTTTGGAAGAGATGTATTTA
TTAGATAAAAAATCAATGTCTTCGGACTCTTTGATGATTCATAATAACTTTTCGAATCGCATGGCCTTGT
GCTGGCGATGGTTCATTCAAATTTCTGCCCTATCAACTTTCGATGGTAGGATAGTGGCCTACCATGGTTT
CAACGGGTAACGGGGAATAAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAACGGCTACCACATCCAAGGA
AGGCAGCAGGCGCGCAAATTACCCAATCCTAATTCAGGGAGGTAGTGACAATAAATAACGATACAGGGCC
```

b. Protein

```
VVAELFSGSETLDCLFVERLGISSLIREAMQAWSEEELSRLVHKHGGRPIGSYKFVPMDDFSYPADINLN
EEHCFNDSNDNSIRCVSEIMIPKILTATPPHALFMDCTHDNETPFEKRTVEDTLPNAALVALCSSAIGSV
YGYDEIFPHLLNLVTEKRHYDISTPTGSPSIGITKVKATLNSIRTSIGEKAYDIEDSEMHVHHQGQYITF
HRMDVKSGKGWYLIARMKFSDNDDPNETLPPVVLNQSTCSLRFSYALERVGDEIPNDDKFIKGIPTKLKE
LEGFDISYDDSKKISTIKLPNEFPQGSIAIFETQQNGVDESLDHFIRSGALKATSSLTLESINSVLYRSE
PEEYDVSAGEGGAYIIPNFGKPVYCGLQGWVSVLRKIVFYNDLAHPLSANLRNGHWALDYTISRLNYYSD
```

10. KELOMPOK 10

a. Nukleotida

```
AGCCCTCCAGGACAGGCTGCATCAGAAGAGGCCATCAAGCAGATCACTGTCCTTCTGCCATGGCCCTGTG
GATGCGCCTCCTGCCCCTGCTGGCGCTGCTGGCCCTCTGGGGACCTGACCCAGCCGCAGCCTTTGTGAAC
CAACACCTGTGCGGCTCACACCTGGTGGAAGCTCTCTACCTAGTGTGCGGGGAACGAGGCTTCTTCTACA
CACCCAAGACCCGCCGGGAGGCAGAGGACCTGCAGGTGGGGCAGGTGGAGCTGGGCGGGGGCCCTGGTGC
AGGCAGCCTGCAGCCCTTGGCCCTGGAGGGGTCCCTGCAGAAGCGTGGCATTGTGGAACAATGCTGTACC
```

b. Protein

```
MALWMRLLPLLALLALWGPDPAAAFVNQHLCGSHLVEALYLVCGERGFFYTPKTRREAEDLQVGQVELGG
```

11. KELOMPOK 11

a. Nukleotida

```
TTTTATATGAGAGTTTGATCCTGGCTCAGGATGAACGCTGGCGGCGTGCCTAATACATGCAAGTCGAACG
AGTTTTGGTCGATGAACGGTGCTTGCACTGAGATTCGACTTAAAACGAGTGGCGGACGGGTGAGTAACAC
GTGGGTAACCTGCCCTTAAGTGGGGGATAACATTTGGAAACAGATGCTAATACCGCATAAATCCAAGAAC
CGCATGGTTCTTGGCTGAAAGATGGCGYAAGCTATCGCTTTTGGATGGACCCGCGGCGTATTAGCTAGTT
GGTGAGGTAACGGCTCACCAAGGCGATGATACGTAGCCGAACTGAGAGGTTGATCGGCCACATTGGGACT
```

b. Protein

```
MEELPADVAAFVETHLVDRRNSNAVKWDGLAGEFGRTDLLPMWIADTEFKAPQAVIDALTARIQEGTFGY
SIRPQSYYDAFIDWEKTRHGVTVQPEWMRFGVGVVKSLYAMVNWLTEPGDPVLIMQPVYYPFMNAIKDLG
RKVVSVDLQLTADGWRIDFDQLEKTLAMQNIKAMIFCSPHNPVGRVWTREELERLFAITSHHDVTVVSDE
```

12. KELOMPOK 12

a. Nukleotida

```
CTCTGACCTTCACCCCCACCCAGCTGAACTGCATCTCCAGCATTCCTACCACCTGGAAGTGGTCATACTC
CGGCTCGAGCATCGTTGCCGACGTCGCTTACGACACATTCCTGGCCGAAACCGCCAGCGGCTCGTCCAAG
TACGAGATCATGGTCTGGCTCGCGGCCTTGGGCGGTGCTGGCCCCATCTCGTCGACCGGATCGACCATCG
CCACCCCGACGATTGCCGGCGTCAACTGGAAGCTGTACTCCGGCCCCAACGGTGACACCACCGTCTACAG
```

b. Protein

```
MKLSLLSLATLASAASLQRRSDFCGQWDTATAGDFTLYNDLWGESAGTGSQCTGVDSYSGDTIAWHTSWS
WSGGSSSVKSYVNAALTFTPTQLNCISSIPTTWKWSYSGSSIVADVAYDTFLAETASGSSKYEIMVWLAA
```