

Program Code

```
def enter_sequence():
    dnalist = []
    dnain = input("Enter a DNA sequence: ")

    for char in dnain:
        dnalist.append(char)

    process_select(dnalist)
```

```
def process_select(dna):
    print("")
    print("Do what with DNA sequence?")
    print("1 Display Sequence")
    print("2 Find Complimentary Sequence")
    print("3 Purge and Enter New Sequence")
    selection = int(input("> "))
    if selection == 1:
        print(space_strand(dna))
        process_select(dna)
    elif selection == 2:
        print("")
        output = translate(dna)
        print("\nOutput has been flipped to correct prime ends.")
        print(output)
        process_select(dna)
    elif selection == 3:
        print("")
        enter_sequence()
    else:
        print("Invalid selection!")
        process_select(dna)
```

```
def find_complimentary_bases(dna):
    ans = []
    for i in range(len(dna)):
        if dna[i] == "A":
            ans.append("T")
        elif dna[i] == "T":
            ans.append("A")
        elif dna[i] == "G":
            ans.append("C")
        elif dna[i] == "C":
            ans.append("G")
    else:
```

```
    nil = 0  
    return ans
```

```
def flip_strand(dna):  
    answer = []  
    for i in reversed(dna):  
        answer.append(i)  
    return answer
```

```
def space_strand(dna):  
    stri = "".join(dna)  
    stri = " ".join(stri[i:i+3]  
    for i in range(0, len(stri), 3))  
    return stri
```

```
    return dna
```

```
def translate(dna):  
    toFlip = find_complimentary_bases(dna)  
    final = flip_strand(toFlip)  
    final = space_strand(final)  
    return final
```

```
enter_sequence()
```