

2) (5 pts) ALG (Hash Tables)

There are two hash functions that take in strings as input shown below. Each returns an integer in between 0 and 1,000,002. (Note: 1,000,003 is a prime number.) Which of these two is a better hash function? Explain the weakness in the other function.

```
int f1(char* str) {  
  
    int i = 0, res = 0;  
    while (str[i] != '\0') {  
        res = (256*res + (int)(str[i]))%1000003;  
        i++;  
    }  
    return res;  
}  
  
int f2(char* str) {  
  
    int i = 0, res = 0;  
    while (str[i] != '\0') {  
        res = (res + (int)(str[i]))%1000003;  
        i++;  
    }  
    return res;  
}
```