Cycle 4

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Question 1

Implement Intermediate code generation for simple expressions.

Program :

```
#include<stdio.h>
#include<string.h>

void checkForOperator(char* input, char operator, char* reg) {
    int i = 0, j = 0;
    char temp[100];
    while(input[i] != '\0') {
        if(input[i] == operator) {
            printf("%c\t\t%c\t\t%c\t\t%c\n", operator, *reg,
input[i-1], input[i+1]);
            temp[j-1] = *reg;
            i += 2;
            (*reg)--;
            continue;
        }
        temp[j] = input[i];
        i++;
        j++;
    }
    temp[++j] = '\0';
    strcpy(input, temp);
}

void generateIntermediateCode(char* input) {
    char reg = 'Z';
    checkForOperator(input, '/', &reg);
    checkForOperator(input ,'*', &reg);
    checkForOperator(input, '+', &reg);
    checkForOperator(input, '-', &reg);
    checkForOperator(input, '=', &reg);
}

void main() {
    char input[100];
    printf("Enter the expression: ");
    scanf("%s", input);
    printf("Operator\tDestination\tOperand1\tOperand2\n");
    generateIntermediateCode(input);
}
```

Output:

```
Enter the expression: a+b/g-f*r
Operator        Destination     Operand1        Operand2
/               Z               b               g
*               Y               f               r
+               X               a               Z
-               W               X               Y
```