

- In the best case scenario, atleast 2 if conditionals must be executed (easy to see), along with a printf statement. \therefore Step-count=3.
- In the worst case scenario, atleast 3 if conditionals are executed (easy to prove), along with a printf statement. \therefore Step-count=4

4) void printMatrix(int matrix[][MAX_SIZE], int rows, int cols)

```

{
    int i, j;
    for(i=0; i<rows; i++) {
        for(j=0; j<cols; j++)
            printf("%d", matrix[i][j]);
        printf("\n");
    }
}

```

- a) Rewrite the program so that step counts are introduced into the function

```

void printMatrix(int matrix[][MAX_SIZE], int rows, int cols)
{
    int i, j;
count++; // for the for loop with variable
    count++; // for when loop variable i=rows
    for(i=0; i<rows; i++) {
        count++; // counts for each value of i in [0, rows-1]
        count++; // for when loop variable j=cols
        for(j=0; j<cols; j++) {
            count++; // counts for each value of j in [0, cols-1]
            printf("%d", matrix[i][j]);
            count++; // counts for each value of matrix element printed
        }
        count++; // for printing newline
        printf("\n");
    }
}

```

- b) Simplify the resulting function by eliminating statements.