1.

#include <stdio.h>

void main() {

int users;

int max\_users = 500000;

printf("Enter the number of concurrent users: ");

scanf("%d", &users);

if (users >max\_users)

{

printf("Error: Platform crash!Too many concurrent users.\n");

}

else

{

printf("Platform running successfully with %d concurrent users.\n", users);

}

}

2. #include <stdio.h>

#include <stdlib.h>

#include <time.h>

int main() {

int failures = 0;

srand(time(NULL));

for (int i = 0; i < 100; i++) {

if ((double)rand() / RAND\_MAX < 0.02) {

failures++;

}

}

printf("Failed recommendations: %d\n", failures);

return 0;

}

5. #include <stdio.h>

int main() {

    int totalLines = 1000000;

    double techDebt = 0.1;

    double reduction = 0.02;

    printf("Month\tTechnical Debt (Lines)\n");

    for (int month = 1; month <= 12; month++) {

        int debtLines = totalLines \* techDebt;

        printf("%d\t%d\n", month, debtLines);

        techDebt \*= (1 - reduction);

    }

    return 0;

}