Rešenja zadataka sa trećeg kolokvijuma iz Operativnih sistema 2, januar 2024.

1. (10 poena)

```
void getRAID6Addr (long lBlock, long* diskNo, long* blockNo) {
  long b = lBlock + ECC_BLOCKS*(lBlock/DATA_BLOCKS);
  *diskNo = b%TOTAL_DISKS;
  *blockNo = b/TOTAL_DISKS;
}
```

2. (10 poena)

```
#!/bin/bash

if [ $# -ne 1 ]; then
    echo "Error: script accepts only one parameter"
    exit 1
fi

file_name=$1

ifs_old=$IFS
IFS=$'\n'
for i in $(find . -name "$file_name" 2> /dev/null); do
    if [ -x "$i" -a -f "$i" ]; then
        echo "$i" | sed 's:\(.*\)/[^/]*:\1:'
    fi
done
IFS=$ifs_old
```

3. (10 poena)

```
#include <stdio.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <sys/stat.h>

#define KEY 5555
#define M 5
#define N 30

struct mat {
    int abc[3][M][N];
};

void init_mat(struct mat* mat_shr, int index) {
    for (int i = 0; i < M; i++) {
        for (int j = 0; j < N; j++) {
            mat_shr->abc[index][i][j] = rand() % 100;
        }
    }
}


void print_mat(struct mat* mat_shr, int index) {
    printf("\nMatrix %d\n", index);
    for (int i = 0; i < M; i++) {
        for (int j = 0; j < N; j++) {
            printf("%d ", mat_shr->abc[index][i][j]);
```

```
        }
        putchar('\n');
    }
}

void sum_row(struct mat* mat_shr, int row) {
    for (int i = 0; i < N; i++) {
        mat_shr->abc[2][row][i] =
            mat_shr->abc[0][row][i] + mat_shr->abc[1][row][i];
    }
}

int main() {
    int shmid = shmget(KEY, sizeof(struct mat),
        IPC_CREAT | IPC_EXCL | S_IRUSR | S_IWUSR);
    struct mat *mat_shr = shmat(shmid, 0, 0);

    for (int i = 0; i < 2; i++) {
        init_mat(mat_shr, i);
        print_mat(mat_shr, i);
    }

    for (int i = 0; i < M; i++) {
        int pid = fork();
        if (pid == 0) {
            sum_row(mat_shr, i);
            shmdt (mat_shr);
            exit(0);
        }
    }

    wait(0);

    print_mat(mat_shr, 2);

    shmdt (mat_shr);
    shmctl (shmid, IPC_RMID, 0);

    return 0;
}
```