

```

int main(int argc, char * argv[]){
    int fd, fd_pipe1[2],fd_pipe2[2], n;
    char expression[MAXLINE], result[MAXLINE], final[MAXLINE*2 + 3];

    if(argc != 2){
        fprintf(stderr,"Usage: %s <destination>",argv[0]);
        exit(1);
    }

    pipe(fd_pipe1);
    pipe(fd_pipe2);

    pid_t pid = fork();

    if(pid > 0){ // Parent
        close(fd_pipe1[READ]);
        close(fd_pipe2[WRITE]);

        if((fd = open(argv[1], O_CREAT|O_WRONLY|O_APPEND,0644)) == -1){
            fprintf(stderr,"Error opening file in write only mode"); exit(1);
        }

        do{
            printf("Input expression (END = CTRL-D): ");

            if(fgets(expression, MAXLINE, stdin) == NULL) break;

            n = strlen(expression);
            write(fd_pipe1[WRITE], expression, n);

            read(fd_pipe2[READ],expression,MAXLINE);
            expression[strlen(expression)-1] = '\0';
            read(fd_pipe2[READ],result,MAXLINE);

            sprintf(final,"%s = %s",expression,result);

            write(fd,final,strlen(final));

            memset(expression,'\0',MAXLINE);
            memset(result,'\0',MAXLINE);
            memset(final,'\0',MAXLINE);

        } while(1);

        close(fd_pipe1[WRITE]);
        close(fd_pipe2[READ]);
        close(fd);
    }
    else if(pid == 0){ // Child
        close(fd_pipe1[WRITE]);
        close(fd_pipe2[READ]);

        dup2(fd_pipe2[WRITE],STDOUT_FILENO);
        dup2(fd_pipe1[READ],STDIN_FILENO);

        execlp("bc", "bc", "-qi", NULL);
    }
    else{
        fprintf(stderr,"Fork error"); exit(1);
    }
    return 0;
}

```

