Politechnika Świętokrzyska Wydział Elektrotechniki, Automatyki i Informatyki		
Programowanie Usług Sieciowych - laboratorium		
Laboratorium 7	Mateusz Hupa	Grupa: 1ID21A

Celem laboratorium było udoskonalenie programów napisanych na poprzednich laboratoriach.

Serwer:

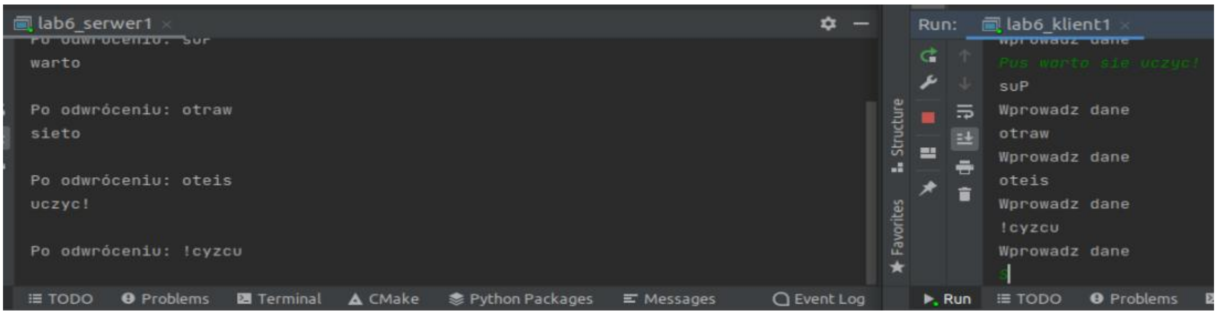
```
#include <stdio.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <string.h>
#include <cerrno>
#include <cstdlib>
#include <sys/syslog.h>
#define MAXLINE 4096

int err(char *s){
    printf("%s\n", s);
    printf("Errno:%d\n", errno);
    fprintf(stderr,"%s\n",strerror(errno));
    exit(-1);
}

int main(){

    int listenfd;
    int nn = 240 * 1024;

    int n, a;

    struct sockaddr_in servaddr, cliaddr;

    socklen_t len;

    char buff[MAXLINE];

    listenfd = socket(AF_INET, SOCK_DGRAM, 0);

    if(listenfd < 0){

        err("socket");

        syslog(LOG_ERR, "socket\n");

        exit(1);

    }

    setsockopt(listenfd, SOL_SOCKET, SO_RCVBUF, &nn, sizeof(nn));

    servaddr.sin_family = AF_INET;

    servaddr.sin_addr.s_addr = htonl(INADDR_ANY);

    servaddr.sin_port = htons(4000);

    if(bind(listenfd, (struct sockaddr *) &servaddr, sizeof(servaddr))){

        err("bind");

        syslog(LOG_ERR, "bind");

        exit(1);

    }

    while(1){

        len = sizeof(cliaddr);

        while(n = recvfrom(listenfd, buff, MAXLINE, MSG_WAITALL, (struct sockaddr *)
&cliaddr, &len)>0) {

            printf("%s \n", buff);



            char resline[strlen(buff)];
            for (int t = 0; t < strlen(buff); t++) {
                resline[t] = buff[strlen(buff) - t - 1];
            }
            resline[strlen(buff)] = '\0';
            printf("\nPo odwróceniu: %s\n", resline);
            a = sendto(listenfd, resline, sizeof(resline), 0, (struct sockaddr *) &cliaddr, len);
            if(a <0){
                err("sendto");
                syslog(LOG_ERR, "sendto");
                exit(1);
            }
        }
        if(n <0){
            err("recvfrom");
            syslog(LOG_ERR, "recvfrom");
            exit(1);
        }
    }
}
```

Klient:

```
#include <stdio.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <string.h>
```

```
#include <arpa/inet.h>

#include <cerrno>

#include <cstdlib>

#include <sys/syslog.h>

#define MAXLINE 4096


int err(char *s){

    printf("%s\n", s);

    printf("Errno:%d\n", errno);

    fprintf(stderr,"%s\n",strerror(errno));

    exit(-1);

}


int main(){


    int listenfd, n;

    socklen_t len;

    char recvline [MAXLINE +1];

    struct sockaddr_in servaddr, cliaddr;

    char buff[MAXLINE];

    listenfd = socket(AF_INET, SOCK_DGRAM, 0);

    if(listenfd < 0){

        err("socket");

        syslog(LOG_ERR, "socket\n");

        exit(1);

    }

    int nn = 240 * 1024;
    setsockopt(listenfd, SOL_SOCKET, SO_RCVBUF, &nn, sizeof(nn));
    bzero(&servaddr, sizeof(servaddr));
    servaddr.sin_family = AF_INET;
    inet_pton(AF_INET, "127.0.0.1", &servaddr.sin_addr);
    servaddr.sin_port = htons(4000);
    while(1){
        char buff[100];
        bzero(buff,sizeof(buff));
        printf("Wprowadz dane \n");
        scanf("%s", buff);
        n = sendto(listenfd, buff, strlen(buff), 0, (struct sockaddr *) &servaddr, sizeof(servaddr));
        if(n <0){
            err("sendto");
            syslog(LOG_ERR, "sendto");
            exit(1);
        }
        n = recvfrom(listenfd, recvline, MAXLINE, 0, NULL, NULL);
        if(n <0){
            err("recvfrom");
            syslog(LOG_ERR, "recvfrom");
            exit(1);
        }
        printf("%s \n", recvline);
    }
}
```

Wynik działania programów:



```
Po odwróceniu: suP
warto

Po odwróceniu: otraw
sieto

Po odwróceniu: oteis
uczyc!

Po odwróceniu: !cyzcu
```

```
Wprowadz dane
Pus warto sie uczyc!
suP
Wprowadz dane
otraw
Wprowadz dane
oteis
Wprowadz dane
!cyzcu
Wprowadz dane
$
```