**public** **class** **Servidor** {

**public** **static** **void** **main**(**String**[] args) {

**try** {

**ServerSocket** **srv** = **new** ServerSocket(7070);

**while** (**true**) {

**System**.***out***.println("Servidor Conectado");

**Socket** **cliente** = srv.accept();

**Thread** **t** = **new** Thread(**new** TratarInteiros(cliente));

t.start();

}

} **catch** (**Exception** **e**) {

**System**.***out***.println(e); }

}

}**public** **class** **Cliente** {

**public** **static** **void** **main**(**String**[] args) **throws** **IOException** {

**Socket** **cliente** = **new** Socket("127.0.0.1", 7070);

**DataOutputStream** **out** = **new** DataOutputStream(cliente.getOutputStream());

**DataInputStream** **in** = **new** DataInputStream(cliente.getInputStream());

**byte**[] **vet** = {1,6,3,9,2,5,4,7,8};

**byte**[] **vet2** = {1,2,3,4,5,6,7,8,9,0};

**int** **op** = 4;

out.write(op);// Defina Op

out.flush();

**if**(op==3) {

out.write(vet2.length);//tamanho

out.flush();

out.write(vet2);

out.flush();

**int** **qtd** = in.read();

**System**.***out***.println("Qtd impares: " +qtd);

}

**if**(op ==4) {

**byte** [] **vetUnico** = **new** **byte**[1+vet.length+vet2.length];

vetUnico[vetUnico.length-1] = (**byte**)vet.length;

**System**.*arraycopy*(vet, 0, vetUnico, 0, vet.length);

**System**.*arraycopy*(vet2, 0, vetUnico, vet.length, vet2.length);

out.write(vetUnico.length);//tamanho

out.flush();

out.write(vetUnico);

out.flush();

**int** **total** = in.read();

**System**.***out***.print("O Produto Escalar eh: " +total);

} **else**{

out.write(vet.length);//tamanho

out.flush();

out.write(vet);

out.flush();

**int** **newLength** = in.read();

**byte**[] **newvet** = **new** **byte**[newLength];

in.read(newvet, 0, newLength);

**for** (**int** **i** = 0; i < newvet.length; i++) {

**System**.***out***.print(newvet[i]);

**System**.***out***.print(","); }

}

}

}

**public** **class** **TratarInteiros** **implements** Runnable {

**private** **byte**[] vetor;

**private** **Socket** cliente;

**public** **TratarInteiros**(**Socket** cliente) {

**this**.cliente = cliente;

}

**public** **byte**[] **getVetor**() {

**return** vetor;

}

**public** **void** **setArrumarPilha**(**byte**[] vetor) {

**for** (**int** **i** = 0; i < vetor.length; i++) {

**for** (**int** **j** = i; j < vetor.length; j++)

**if** (vetor[i] % 2 == 1) {

**byte** **aux** = vetor[i];

**for** (**int** **z** = i+1; z < vetor.length; z++) {

vetor[z-1] = vetor[z];

}

vetor[vetor.length-1] = aux;

}

}

**this**.vetor = vetor;

}

**public** **void** **setRemovePar**(**byte**[] vetor) {

**byte**[] **semPar** = **new** **byte**[vetor.length];

**int** **x** = 0;

**for** (**int** **i** = 0; i < vetor.length; i++) {

**if** (vetor[i] % 2 == 1) {

semPar[x] = vetor[i];

x++;

}

}

**byte**[] **semParTrim** = **new** **byte**[x];

**System**.*arraycopy*(semPar, 0, semParTrim, 0, x);

**this**.vetor = semParTrim;

}

**public** **int** **getImparCount**(**byte**[] vetor) {

**int** **x** = 0;

**for** (**int** **i** = 0; i < vetor.length; i++) {

**if** ((vetor[i] % 2) != 0) {

x++;

}

}

**return** x;

}

**public** **int** **getProdutoEscalar**(**byte**[] vetor) {

**byte** [] **vetor1** = **new** **byte**[(**int**)vetor[vetor.length-1]];

**byte** [] **vetor2** = **new** **byte**[vetor.length-(1+vetor1.length)];

**System**.*arraycopy*(vetor, 0, vetor1, 0, vetor1.length);

**System**.*arraycopy*(vetor, vetor1.length, vetor2, 0, vetor2.length);

**int** **x**=0;

**if**(vetor1.length <= vetor2.length) {

**for**(**int** **i** = 0; i<vetor1.length;i++)

x += vetor1[i]\*vetor2[i];

}

**else**

**for**(**int** **i** = 0; i<vetor2.length;i++)

x += vetor1[i]\*vetor2[i];

**return** x;

}

**public** **static** **void** **main**(**String**[] args) **throws** **IOException** {

}

***@Override***

**public** **void** **run**() {

**try** {

**DataOutputStream** **out** = **new** DataOutputStream(cliente.getOutputStream());

**DataInputStream** **in** = **new** DataInputStream(cliente.getInputStream());

**byte** **op** = in.readByte();

**int** **lengt** = in.read();

**byte**[] **vet** = **new** **byte**[lengt];

in.read(vet, 0, lengt);

**switch** (op) {

**case** 1:

**this**.setArrumarPilha(vet);

out.write(**this**.getVetor().length);

out.flush();

out.write(**this**.getVetor());

out.flush();

**break**;

**case** 2:

**this**.setRemovePar(vet);

out.write(**this**.getVetor().length);

out.flush();

out.write(**this**.getVetor());

out.flush();

**break**;

**case** 3:

out.write(**this**.getImparCount(vet));

out.flush();

**break**;

**case** 4:

out.write(**this**.getProdutoEscalar(vet));

out.flush();

**break**; }

} **catch** (**IOException** **e**) {

**System**.***out***.print(e);

}

}

}