int main(){

double mu, next\_mu, mrate, dd;

float rr, efst, fsum, wsum;

float tcum;

int j, j2, i, itno, it, seq, ic, k, ik, ll, initot, init[NOC], keepmu;

double rm;//migration rate?

int i1, j1, kk, \*\*val\_arr, \*\*freq\_arr, noall;

float vhet, h0, h1, fst;

int totall;

char dic[100], str1[10];

FILE \*inp, \*alls;

//read in parameter info from fdist\_params2.dat (deleted to save space)

rm = 0.5\*(1.0 / efst - 1);

for (j = 0; j<Subs; ++j){

init[j] = Smp;

}

for (j = Subs; j<Spno; ++j)init[j] = 0;

initot = Smp\*Subs;

val\_arr = (int \*\*)malloc(Subs\*sizeof(int \*));

freq\_arr = (int \*\*)malloc(Subs\*sizeof(int \*));

for (j = 0; j<Subs; ++j){

val\_arr[j] = (int \*)malloc(Smp\*sizeof(int));

freq\_arr[j] = (int \*)malloc(Smp\*sizeof(int));

}

Nmax = Smp;

fsum = wsum = 0.0;

keepmu = 0;

for (kk = 0, i = 0; 1; ++kk){

if (!keepmu){

rr = gfsr4();

if (!Ms)mu = rr / (1 - rr);

else{

dd = 1 / (1 - rr);

dd \*= dd;

mu = (dd - 1)\*0.5;

}

if (mu > 100000)mu = 100000;

}

sim1(init, initot, rm, mu, freq\_arr, val\_arr, &noall);

if (noall > 1){

my\_thetacal(freq\_arr, noall, init, Subs, &h0, &h1, &fst);

fprintf(alls, "%f %f\n", h1, fst);

fsum += fst\*h1;

wsum += h1;

++i;

if (i % 10 == 0)fflush(alls);

if (i == itno)break;

keepmu = 0;

}

else{ ++keepmu; if (keepmu > 1000)keepmu = 0; }

}

printf("average Fst is %f\n", fsum / wsum);

printf("type in any character and return to close window");

scanf("%s", str1);

return 0;

}