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#include <stdio.h>

#include <stdlib.h>

#define N 20

void bins(int[]);

int main(){

int waitingTimes[N], i;

for(i=0;i<N;i++)

waitingTimes[i] = rand()%61;

bins(waitingTimes);

return 0;

}

void bins(int waitingTimes[N]){

int histogram[N-8], i, j;

for(j=0;j<N-8;j++) //making all zero because we increment them according to waiting times

histogram[j] = 0;

for(i=0;i<N;i++){

if(waitingTimes[i] >= 0 && waitingTimes[i] <= 5)

histogram[0]++;

else if(waitingTimes[i] <= 10)

histogram[1]++;

else if(waitingTimes[i] <= 15)

histogram[2]++;

else if(waitingTimes[i] <= 20)

histogram[3]++;

else if(waitingTimes[i] <= 25)

histogram[4]++;

else if(waitingTimes[i] <= 30)

histogram[5]++;

else if(waitingTimes[i] <= 35)

histogram[6]++;

else if(waitingTimes[i] <= 40)

histogram[7]++;

else if(waitingTimes[i] <= 45)

histogram[8]++;

else if(waitingTimes[i] <= 50)

histogram[9]++;

else if(waitingTimes[i] <= 55)

histogram[10]++;

else

histogram[11]++;

}

printf("Patient's Waiting times:\n");

for(i=0;i<N;i++)

printf("%d ",waitingTimes[i]);

printf("\n\nHistogram of patient’s waiting times:\n");

printf(" 0-5 minutes: %d\n",histogram[0]);

printf(" 6-10 minutes: %d\n",histogram[1]);

printf(" 11-15 minutes: %d\n",histogram[2]);

printf(" 16-20 minutes: %d\n",histogram[3]);

printf(" 21-25 minutes: %d\n",histogram[4]);

printf(" 26-30 minutes: %d\n",histogram[5]);

printf(" 31-35 minutes: %d\n",histogram[6]);

printf(" 36-40 minutes: %d\n",histogram[7]);

printf(" 41-45 minutes: %d\n",histogram[8]);

printf(" 46-50 minutes: %d\n",histogram[9]);

printf(" 51-55 minutes: %d\n",histogram[10]);

printf(" 56-60 minutes: %d\n",histogram[11]);

}