

プログラミング演習3 第11回 課題解答用紙

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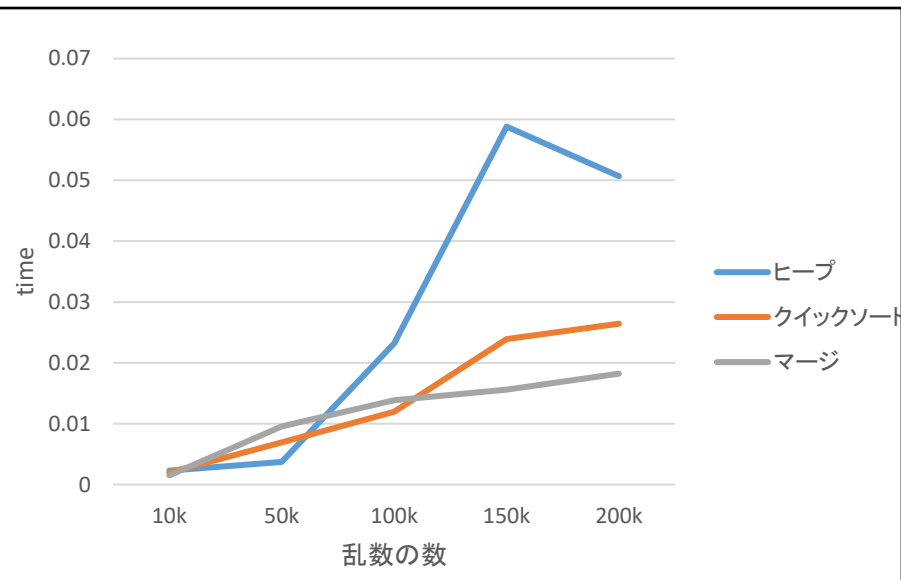
名前:青木勇斗

課題1 コード MergeSort()

```
void MergeSort(int D[], int M[], int left,
int right) {
    int mid = (left + right) / 2;

    if (left < mid) { MergeSort(D,M, left,
mid); }
    if (mid + 1 < right) { MergeSort(D, M,
mid + 1, right); }
    Merge(D, M, left, mid, right);
}
```

課題2 グラフ()



課題1 コード Merge()

```
void Merge(int D[], int M[], int left, int
mid, int right) {
    int x = left; int y = mid + 1;
    for (int i = 0; i <= right - left; i = i
+ 1) {
        if (x == mid + 1) { M[i] = D[y]; y =
y + 1; }
        else if (y == right + 1) {
            M[i] = D[x]; x = x + 1;
        }
        else if (D[x] <= D[y]) {
            M[i] = D[x]; x = x + 1;
        }

        else { M[i] = D[y]; y = y + 1; }
    }

    for (int i = 0; i <= right - left; i = i
+ 1) {
        D[left + i] = M[i];
    }
}
```

課題3 結果

Kolkata(Calcutta) India 13058.060000
Al-Qahirah(Cairo) Egypt 13625.565000
Shanghai China 13958.981000
Delhi India 15732.304000
Mumbai(Bombay) India 16366.787000
SaoPaulo Brazil 17014.078000
NewYork-Newark UnitedStatesofAmerica 17813.371000
CiudaddeMexico(MexicoCity) Mexico 18457.027000
KinkiM.M.A.(Osaka) Japan 18660.022000
Tokyo Japan 34449.908000

課題3 コード Merge()

```
void Merge(record D[], record M[], int left, int mid, int
right, int target) {
    int x = left; int y = mid + 1;
    printf("aaa");
    for (int i = 0; i <= right - left; i = i + 1) {
        if (x == mid + 1) { M[i] = D[y]; y = y + 1; }
        else if (y == right + 1) {
            M[i] = D[x]; x = x + 1;
        }
        else if (D[x].data[target] <= D[y].data[target]) {
            M[i] = D[x]; x = x + 1;
        }
        else { M[i] = D[y]; y = y + 1; }
    }

    for (int i = 0; i <= right - left; i = i + 1) {
        D[left + i] = M[i];
    }
}
```

課題3 コード MergeSort()

```
void MergeSort(record D[], record M[], int left,
int right, int target) {
    printf("bbb");
    int mid = (left + right) / 2;

    if (left < mid) { MergeSort(D, M, left,
mid, target); }
    if (mid + 1 < right) { MergeSort(D, M, mid +
1, right, target); }
    Merge(D, M, left, mid, right, target);
}
```

課題4 結果

Phoenix-Mesa UnitedStatesofAmerica 2504.740500
Dalian China 2500.929000
P'yongyang Dem.People'sRepublicofKorea 2494.606250
Changchun China 2491.111500
Surabaya Indonesia 2463.535500
CapeTown SouthAfrica 2456.085000
Brasilia Brazil 2449.661000
Seattle UnitedStatesofAmerica 2443.831250
SanDiego UnitedStatesofAmerica 2429.826250
TelAviv-Yafo(TelAviv-Jaffa) Israel 2387.907750