第８回
計算機プログラミング演習

サンプルプログラム集

```c
/*  dim_test1_max.c */

#include <stdio.h>

int main(void) {

    int age[12] = { 5, 36, 20, 22, 22, 24, 20, 27, 21, 21, 24, 22 };

    int max;
    int i;

    max = 0;
    for (i = 0; i <= 11; i++) {

        if (max < age[i]) {

            max = age[i];

        }

    }

    printf("最大値 %d\n", max);

}
```

最大値 36

```c
/*  dim_test1_min.c */

#include <stdio.h>

int main(void) {

    int age[12] = { 5, 36, 20, 22, 22, 24, 20, 27, 21, 21, 24, 22 };

    int min;
    int i;

    min = 0;
    for (i = 0; i <= 11; i++) {

        if (min > age[i]) {

            min = age[i];

        }

    }

    printf("最小値 %d\n", min);

}
```

最小値 0

```c
/*  dim_test1_max_min.c */

#include <stdio.h>

int main(void) {

    int age[12] = { 5, 36, 20, 22, 22, 24, 20, 27, 21, 21, 24, 22 };

    int max, min;
    int i;

    min = age[0];
    max = age[0];

    for (i = 1; i <= 11; i++) {

        if (max < age[i]) {

            max = age[i];

        }
        if (min > age[i]) {

            min = age[i];

        }

    }

    printf("最小値 %d 最大値 %d\n", min, max);

}
```

最小値 5 最大値 36

```c
/*    hairetsu1.c   */

#include <stdio.h>

int main(void) {

    int sum = 0;
    int array[] = { 102, 673, 899, 547, 987, 123 };

    for (int i = 0; i < sizeof(array) / sizeof(array[0]); i++) {
        sum += array[i];
    }
    printf("合計は%d\n", sum);
    return 0;

}
```

合計は3331

hairetsu2.c

```c
#include <stdio.h>

int main(void) {

    int array1[] = { 0, 0, 0, 0 };
    int array2[] = { 345, 67, 89, 65, 76 };


    for (int i = 0; i <= sizeof(array1) / sizeof(array1[0]); i++) {

        array1[i] = array2[i];

        printf("array1[%d]= %d\n", i, array1[i]);

    }

    return 0;

}
```

hairetsu2.c

```c
#include <stdio.h>

int main(void) {

    int array1[] = { 0, 0, 0, 0 };
    int array2[] = { 345, 67, 89, 65, 76 };


    for (int i = 0; i < sizeof(array1) / sizeof(array1[0]); i++) {

        array1[i] = array2[i];

        printf("array1[%d]= %d\n", i, array1[i]);

    }

    return 0;
}
```

```
array1[0]= 345
array1[1]= 67
array1[2]= 89
array1[3]= 65
```

```c
/*      two_dim_test.c      */

#include <stdio.h>

int main(void) {

    int mark[8][3] = { {45, 50, 65}, {64, 72, 84}, {58, 92, 43},
        {60, 62, 54}, {51, 33, 45}, {76, 88, 65}, {45, 53, 35},
        {39, 62, 38} };

    int sum, i, j;

    for (i = 0; i <= 7; i++) {

        sum = 0;
        for (j = 0; j <= 2; j++) {

            sum = sum + mark[i][j];

        }

        printf("生徒%dの合計%d\n", i, sum);

    }

    for (i = 0; i <= 2; i++) {

        sum = 0;
        for (j = 0; j <= 7; j++) {

            sum = sum + mark[i][j];

        }

        printf("教科%dの平均点：%d\n", i, sum/8);

    }

}
```

```
生徒0の合計160
生徒1の合計220
生徒2の合計193
生徒3の合計176
生徒4の合計129
生徒5の合計229
生徒6の合計133
生徒7の合計139
教科0の平均点：66
教科1の平均点：66
教科2の平均点：56
```