Answers

- int years[100];
- double temps[30];

Answers

- grade[0], grade[4], grade[19]
- time[0], time[4], time[99]

Solution (1)

```
int  i, grades[100], min, total=0;
float avg;

for (i=0; i <100; i++) {
    printf ("\n type a grade");
    scanf ("%d", &grades[i]);
}
for (i=0; i <100; i++) {
    if (i==0)
        min = grades[0];
    else if (grades[i] < min)
        min = grades[i];
    total = total + grades[i];
}
avg = (float) total / 100;
printf (" lowest grade = %d, and average grade = %f", min, avg);
```

Solution (2)

```c
#include <stdio.h>
#define MAX 10
void main() {
    int  i, grades[MAX], minx, min, total = 0;
    float avg;

    for (i = 0; i <MAX; i++) {
        printf("type a grade\n");
        scanf("%d", &grades[i]);
    }
    for (i = 0; i <MAX; i++) {
        if (i == 0) {
        minx = 0;
        min = grades[0];
        }
        else if (grades[i] < min){
        minx = i;
        min = grades[i];
        }
        total = total + grades[i];
    }
    avg = (float)total / 100;
    printf(" lowest grade = %d, and average grade = %f", grades[minx], avg);
}
```

Answer

- float prices[4] = {16.24, 18.98, 23.75, 19.54};

Solution

```c
int  i, num1[5], num2[5];

for (i=0; i <5; i++) {
    printf ("\n type a number");
    scanf ("%d", &num2[i]);
}
for (i=0; i < 5; i++)
    num1[i] = num2[i];

for (i=0; i <5; i++)
    printf ("\n %d num2 = %d  and num1 = %d", i,
num2[i], num1[i]);
```

Solution

```
int  i, k,  num1[15], num2[5];

for (i=0; i <5; i++) {
    printf ("\n type a number");
    scanf ("%d", &num2[i]);
}
for (k=0; k <10; k++) {
    printf ("\n type a number");
    scanf ("%d", &num1[k]);
}

for (i=0; i <5  ; i++)
    num1[i+k] = num2[i];
```

Solution

```
int  i, num1[5], num2[5];

for (i=0; i <5; i++) {
    printf ("₩n type a number");
    scanf ("%d", &num1[i]);
}
for (i=0; i <5; i++) {
    printf ("₩n type a number");
    scanf ("%d", &num2[i]);
}
for (i=0; i < 5; i++) {
    if (num1[i] == num2[i])
        if (i==4) {
            printf "result = 0");
            break;
        }
    else if (num1[i] > num2[i]) {
        printf "result = 1");
        break;
    }
    else
        printf "result = -1 ");
}
```

2-Dimensional Array

Solution – step 1

```
#define CITY_SIZE 3
#define DAY_SIZE 7
…
int tempC[CITY_SIZE][DAY_SIZE];
float tempF[CITY_SIZE][DAY_SIZE];
int i, j, tmp;
int sum[CITY_SIZE]={0,};
…
printf("Get each city temperature value in celcius\n");
for (i=0; i<CITY_SIZE; i++)
  for (j=0; j< DAY_SIZE; j++) {
    scanf("%d",&tempC[i][j]);
    tempF[i][j] = (9.0/5.0) * tempC[i][j] + 32.0;
}
```

Reading data
Computing Celsius to Fahrenheit

Solution – step 2

Compute average
Ignore 2nd city

```
#define CITY_SIZE 3
#define DAY_SIZE 7
…
int sum[CITY_SIZE]={0,};
for (i=0; i<CITY_SIZE; i++) {
    tmp = 0;
  for (j=0; j< DAY_SIZE; j++) {
        if(i==1) continue;
        tempF[i][j] = (9.0/5.0) * tempC[i][j] + 32.0;
        tmp = tmp +  tempF[i][j];
  }
  sum[i] = tmp; }
  printf("average = %f \n", (float) sum[i]/DAY_SIZE);
```
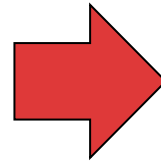
Solution

```
int k, n, grade;
float total_s, total_d, avg_s, avg_d;
total_d = 0;

for (k=1; k <= 5; k= k+1) {
    total_s = 0;
    for (n=1; n <= 3; n=n+1) {
        printf ("\ntype a grade");
        scanf ("%d", &grade);
        total_s = total_s + grade;
    }
    total_d = total_d + total_s;
    avg_s = total_s / 3;
    printf ("student's mean = %f", avg_s);
}
avg_d = total_d / 15;
printf ("department's average = %f", avg_d);
```

```
int grade[5][3];
int total_c; // subjects' sum

// Read grades and subject sum
for (int k=0; k < 5; k= k+1){
    total_s = 0;
    for (int n=0; n < 3; n=n+1) {
        scanf ("%d", &grade[k][n]);
        total_s = total_s + grade[k][n];
    }
}
// Score sum
for (int j=0; j <  3; j=j++)
    for (int i=0; i < 5; i++)
        total_c = total_c + grade[i][j];
```