

## 2017 January (N102)

The "SUPER GOODS" Pvt. Ltd. manufactures spices for the export market. There are two machines, A and B in the factory. A sample production of each machine for 7 days is shown in the following table 1 and 2 respectively. The production ranges between 100 and 200 per day.

Table 1 - Machine A Production

Day	1	2	3	4	5	6	7
Array index	0	1	2	3	4	5	6
Production	160	180	150	110	190	140	165

Table 2 - Machine B Production

Day	1	2	3	4	5	6	7
Array index	0	1	2	3	4	5	6
Production	180	100	115	170	155	165	195

- Write a function using C statements called ***InputProduction()*** which takes an integer ***array*** and the ***size of the array*** as parameters. The method should ask the user to insert production of each day and fill the array. The values are entered through the keyboard.
- Write a function using C statements called ***MinimumProduction()*** which takes an integer ***array*** and the ***size of the array*** as parameters. The method should find and return the lowest production in the array.
- Write a function using C statements called ***MaximumProduction()*** which takes an integer ***array*** and the ***size of the array*** as parameters. The method should find and return the highest production in the array.
- Write a function using C statements called ***AverageProduction()*** which will take two integer arrays (***array1***, ***array2***), one float array (***array3***) and the ***size of the array1*** as parameters. The method should find and store the average of array1 production and array2 production in array3 for 7 days.
- Write a function using C statements called ***PrintProduction()*** which will take an integer ***array*** and the ***size of the array*** as parameters. The method prints one asterisk (\*) for 10 products.

(Note: the machine production is rounded off to the nearest 10)

Example:

- if the production of machine is 15. It should have rounded off to 20 and then print 2 asterisks.
- if the production of machine is 14 It should have rounded off to 10 and then print 1 asterisk.
- if the production of machine is 16. It should have rounded off to 20 and then print 2 asterisks.

- Write a function using C statements called ***DisplayDay()*** to print the day of a particular production. The function should take the integer ***array***, the ***size of the array*** and ***the production*** as parameters. The parameter ***production*** indicates the value to be searched in the array.

(Note: use a switch statement)

## 2017 June (N102)

The "XYZ GOODS". Pvt. Ltd. manufactures spices for the export market. A sample production of machine A for Week 1 and Week 2 are shown in the following table 1 and 2 respectively. The production ranges between 50 and 300 per day.

Table 1 – Machine A Production Week 1

Day	1 (MON)	2 (TUE)	3 (WED)	4 (THU)	5 (FRI)	6 (SAT)	7 (SUN)
Array <i>index</i>	0	1	2	3	4	5	6
Production	50	60	150	100	190	240	155

Table 2 – Machine A Production Week 2

Day	1 (MON)	2 (TUE)	3 (WED)	4 (THU)	5 (FRI)	6 (SAT)	7 (SUN)
Array <i>index</i>	0	1	2	3	4	5	6
Production	80	65	115	170	145	95	103

- (a) Write a function using C statements called ***InputProduction()*** which takes an integer ***array*** and the ***size of the array*** as parameters. The method should ask the user to insert production of each day (Monday to Sunday) and fill the array. The values are entered through the keyboard.
- (b) Write a function using C statements called ***MinimumDay()*** which takes an integer ***array*** and the ***size of the array*** as parameters. The method should find and return the day of the lowest production (1 to 7) in the array.
- (c) Write a function using C statements called ***MaximumDay()*** which takes an integer ***array*** and the ***size of the array*** as parameters. The method should find and return the day of the highest production (1 to 7) in the array.
- (d) Write a function using C statements called ***TotalProduction()*** which takes an integer ***array*** and the ***size of the array*** as parameters. The method should find and return the total production of all the elements in the array.
- (e) Write a function using C statements called ***AverageProduction()*** which takes an integer ***array*** and the ***size of the array*** as parameters. The method should find and return the average production of all the elements in the array.
- (f) Write a function using C statements called ***CompareProduction()*** which will take three integer arrays (***array1***, ***array2*** and ***array3***) and the ***size of the array*** as parameters. The method should find the highest production of each day by comparing array1 and array2 production and store in the array3 for 7 days.
- (g) Write a function using C statements called ***DisplayProduction()*** to print the production of a particular day. The function should take the integer ***array***, the ***size of the array*** and ***the day*** as parameters. The function validates the input and prints the production of that day.

## 2018 January (IT1103)

The “Metro” Pvt. Ltd. monitors and records rainfall in 2 districts for 7 days and is shown in the following table 1 and 2 respectively. The measurements are taken in millimeters and range between 0 and 1000 per day.

Table 1-District A Rainfall

Day	1 (MON)	2 (TUE)	3 (WED)	4 (THU)	5 (FRI)	6 (SAT)	7 (SUN)
Array index	0	1	2	3	4	5	6
Rainfall	160.5	180	150	110	290	140.5	165

Table 2- District B Rainfall

Day	1 (MON)	2 (TUE)	3 (WED)	4 (THU)	5 (FRI)	6 (SAT)	7 (SUN)
Array index	0	1	2	3	4	5	6
Rainfall	180	100.5	515	170	155	165	195

- (a) Write a function using C statements called ***InputRainfall()*** which takes a float ***array*** and an integer as the ***size of the array*** as parameters. The method should ask the user to insert rainfall of each day and fill the array. The values are entered through the keyboard and range between 0 and 1000 per day.
- (b) Write a function using C statements called ***MinimumRainfall()*** which takes a float ***array*** and an integer as the ***size of the array*** as parameters. The method should find and return the index of the lowest rainfall in the array.
- (c) Write a function using C statements called ***MaximumRainfall()*** which takes a float ***array*** and an integer as the ***size of the array*** as parameters. The method should find and return the index of the highest rainfall in the array.
- (d) Write a function using C statements called ***AverageRainfall()*** which takes a float ***array*** and an integer as the ***size of the array*** as parameters. The method should find and return the average rainfall over 7 days.
- (e) Write a function using C statements called ***DisplayRainfall()*** to print the rainfall in millimeters. The function should take a float ***array*** and an integer as the index number as a parameter.
- (f) Write a function using C statements called ***PrintReport()*** which will take two float arrays (***array1***, ***array2***), and an integer as the ***size of the array1*** as parameters.

The method prints the report as given below.

(Note: Use the functions already defined to print day in letters, minimum rainfall, maximum rainfall, and average rainfall.)

Sample Output:

Day	District A	District B	Minimum	Maximum
Monday	160.5	180	160.5	180
Tuesday	180	100.5	100.5	180
Wednesday	150	515	150	515
Thursday	110	170	110	170
Friday	290	155	155	290
Saturday	140.5	165	140.5	165
Sunday	165	195	165	195

Rainfall Range

District A: Min=110 Max=290  
District B: Min=100.5 Max=515

Average Rainfall

District A: 170.86  
District B: 211.5