

Scalar Addition

main.cpp / x output-04-02-2025.md sample.cpp main.cpp

main.cpp > main()

```
39
40 #include <iostream>
41 #include <c7x.h>
42 #include <c7x_scalable.h>
43 using namespace c7x;
44 using namespace std;
45 #define ARRAY_SIZE (96)
46 int main(){
47     cout<<"Scalar Addition : "<<endl;
48     int16_t arr1[ARRAY_SIZE];
49     int16_t arr2[ARRAY_SIZE];
50     int16_t res[ARRAY_SIZE];
51     for(int16_t idx = 0;idx < ARRAY_SIZE;idx++){
52         arr1[idx] = idx+1;
53         arr2[idx] = idx+1;
54     }
55     cout<<"Input Array A : ";
56     for(int16_t idx = 0;idx < ARRAY_SIZE;idx++){
57         cout<<arr1[idx]<<" ";
58     }
59     cout<<"\n\nInput Array B : ";
60     for(int16_t idx = 0;idx < ARRAY_SIZE;idx++){
61         cout<<arr2[idx]<<" ";
62     }
63     for(int16_t idx = 0;idx < ARRAY_SIZE;idx++){
64         int16_t a = arr1[idx];
65         int16_t b = arr2[idx];
66         int16_t c = a + b;
67         res[idx] = c;
68     }
69     cout<<"\n\nOutput Array C : ";
70     for(int16_t idx = 0;idx < ARRAY_SIZE;idx++){
71         cout<<res[idx]<<" ";
72     }
73     cout<<endl;
74     return 0;
75 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS SERIAL MONITOR GITLENS

bash + ~

arshathahamed10@arshathahamed10-IdeaPad-3-15ITL6:~/PSDKRA/ti-processor-sdk-rtos-j721e-evm-09_00_01_0_1/c7x-mma-tidl/ti_dl/test/src/pc_linux\$./main.sh

Scalar Addition :
Input Array A : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96
Input Array B : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96
Output Array C : 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180 182 184 186 188 190 192
arshathahamed10@arshathahamed10-IdeaPad-3-15ITL6:~/PSDKRA/ti-processor-sdk-rtos-j721e-evm-09_00_01_0_1/c7x-mma-tidl/ti_dl/test/src/pc_linux\$

Vector Addition

main.cpp / x output-04-02-2025.md sample.cpp main.cpp

main.cpp > main()

```
38
39 #include <iostream>
40 #include <c7x.h>
41 #include <c7x_scalable.h>
42 using namespace c7x;
43 using namespace std;
44 #define ARRAY_SIZE (96)
45 int main(){
46     cout<<"Vector Addition : "<<endl;
47     int16_t arr1[ARRAY_SIZE];
48     int16_t arr2[ARRAY_SIZE];
49     int16_t res[ARRAY_SIZE];
50     for(int16_t idx = 0;idx < ARRAY_SIZE;idx++){
51         arr1[idx] = idx+1;
52         arr2[idx] = idx+1;
53     }
54     cout<<"Input Array A : ";
55     for(int16_t idx = 0;idx < ARRAY_SIZE;idx++){
56         cout<<arr1[idx]<<" ";
57     }
58     cout<<"\n\nInput Array B : ";
59     for(int16_t idx = 0;idx < ARRAY_SIZE;idx++){
60         cout<<arr2[idx]<<" ";
61     }
62     cout<<endl<<endl;
63     int16_t *ptrArr1 = &arr1[0];
64     int16_t *ptrArr2 = &arr2[0];
65     int16_t *ptrRes = &res[0];
66     int vectorLength = element_count_of<short_vec>::value;
67     for(int idx = 0;idx < ARRAY_SIZE;idx +=vectorLength){
68         short_vec arr1Val = *(short_vec *) (ptrArr1 + idx);
69         short_vec arr2Val = *(short_vec *) (ptrArr2 + idx);
70         short_vec result = arr1Val + arr2Val;
71         *(short_vec *) (ptrRes + idx) = result;
72         result.print();
73     }
74     return 0;
75 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS SERIAL MONITOR GITLENS

bash + ~

arshathahamed10@arshathahamed10-IdeaPad-3-15ITL6:~/PSDKRA/ti-processor-sdk-rtos-j721e-evm-09_00_01_0_1/c7x-mma-tidl/ti_dl/test/src/pc_linux\$./main.sh

Vector Addition :
Input Array A : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96
Input Array B : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96
(2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64)
(66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128)
(130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192)
arshathahamed10@arshathahamed10-IdeaPad-3-15ITL6:~/PSDKRA/ti-processor-sdk-rtos-j721e-evm-09_00_01_0_1/c7x-mma-tidl/ti_dl/test/src/pc_linux\$

Scalar Subtraction

```

C++ main.cpp / x output-04-02-2025.md C++ sample.cpp C++ main.cpp ...
C++ main.cpp > main()
38
39 #include <iostream>
40 #include <c7x.h>
41 #include <c7x_scalable.h>
42 using namespace c7x;
43 using namespace std;
44 #define ARRAY_SIZE (96)
45 int main(){
46     cout<<"Scalar Subtraction"<<endl;
47     int16_t arr1[ARRAY_SIZE];
48     int16_t arr2[ARRAY_SIZE];
49     int16_t res[ARRAY_SIZE];
50     for(int16_t idx = 0; idx < ARRAY_SIZE; idx++){
51         arr1[idx] = idx+1;
52         arr2[idx] = (idx+1) * -1;
53     }
54     cout<<"Input Array A : ";
55     for(int16_t idx = 0; idx < ARRAY_SIZE; idx++){
56         cout<<arr1[idx]<<" ";
57     }
58     cout<<"\n\nInput Array B : ";
59     for(int16_t idx = 0; idx < ARRAY_SIZE; idx++){
60         cout<<arr2[idx]<<" ";
61     }
62     for(int16_t idx = 0; idx < ARRAY_SIZE; idx++){
63         int16_t a = arr1[idx];
64         int16_t b = arr2[idx];
65         int16_t c = a - b;
66         res[idx] = c;
67     }
68     cout<<"\n\nOutput Array C : ";
69     for(int16_t idx = 0; idx < ARRAY_SIZE; idx++){
70         cout<<res[idx]<<" ";
71     }
72     cout<<endl;
73     return 0;
74 }

```

```

arshathahamed10@arshathahamed10-IdeaPad-3-15ITL6:~/PSDKRA/ti-processor-sdk-rtos-j721e-evm-09_00_01_0
1/c7x-mma-tidl/ti_dl/test/src/pc_linux$ ./main.sh
Scalar Subtraction
Input Array A : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 6
5 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96

Input Array B : -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 -11 -12 -13 -14 -15 -16 -17 -18 -19 -20 -21 -22 -23 -
24 -25 -26 -27 -28 -29 -30 -31 -32 -33 -34 -35 -36 -37 -38 -39 -40 -41 -42 -43 -44 -45 -46 -47 -48 -
49 -50 -51 -52 -53 -54 -55 -56 -57 -58 -59 -60 -61 -62 -63 -64 -65 -66 -67 -68 -69 -70 -71 -72 -73 -
74 -75 -76 -77 -78 -79 -80 -81 -82 -83 -84 -85 -86 -87 -88 -89 -90 -91 -92 -93 -94 -95 -96

Output Array C : 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58
60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118
120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168
170 172 174 176 178 180 182 184 186 188 190 192
arshathahamed10@arshathahamed10-IdeaPad-3-15ITL6:~/PSDKRA/ti-processor-sdk-rtos-j721e-evm-09_00_01_0
1/c7x-mma-tidl/ti_dl/test/src/pc_linux$

```

Vector Subtraction

```

C++ main.cpp / x output-04-02-2025.md C++ sample.cpp C++ main.cpp ...
C++ main.cpp > main()
38
39 #include <iostream>
40 #include <c7x.h>
41 #include <c7x_scalable.h>
42 using namespace c7x;
43 using namespace std;
44 #define ARRAY_SIZE (96)
45 int main(){
46     cout<<"Vector Subtraction"<<endl;
47     int16_t arr1[ARRAY_SIZE];
48     int16_t arr2[ARRAY_SIZE];
49     int16_t res[ARRAY_SIZE];
50     for(int16_t idx = 0; idx < ARRAY_SIZE; idx++){
51         arr1[idx] = idx+1;
52         arr2[idx] = (idx+1) * -1;
53     }
54     cout<<"Input Array A : ";
55     for(int16_t idx = 0; idx < ARRAY_SIZE; idx++){
56         cout<<arr1[idx]<<" ";
57     }
58     cout<<"\n\nInput Array B : ";
59     for(int8_t idx = 0; idx < ARRAY_SIZE; idx++){
60         cout<<arr2[idx]<<" ";
61     }
62     cout<<endl<<endl;
63     int16_t *ptrArr1 = &arr1[0];
64     int16_t *ptrArr2 = &arr2[0];
65     int16_t *ptrRes = &res[0];
66     int vectorLength = element_count_of<short_vec>::value;
67     for(int idx = 0; idx < ARRAY_SIZE; idx += vectorLength){
68         short_vec arr1Val = *(short_vec *) (ptrArr1 + idx);
69         short_vec arr2Val = *(short_vec *) (ptrArr2 + idx);
70         short_vec result = arr1Val - arr2Val;
71         *(short_vec *) (ptrRes + idx) = result;
72         result.print();
73     }
74     return 0;
75 }

```

```

arshathahamed10@arshathahamed10-IdeaPad-3-15ITL6:~/PSDKRA/ti-processor-sdk-rtos-j721e-evm-09_00_01_0
1/c7x-mma-tidl/ti_dl/test/src/pc_linux$ ./main.sh
Vector Subtraction
Input Array A : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 6
5 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96

Input Array B : -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 -11 -12 -13 -14 -15 -16 -17 -18 -19 -20 -21 -22 -23 -
24 -25 -26 -27 -28 -29 -30 -31 -32 -33 -34 -35 -36 -37 -38 -39 -40 -41 -42 -43 -44 -45 -46 -47 -48 -
49 -50 -51 -52 -53 -54 -55 -56 -57 -58 -59 -60 -61 -62 -63 -64 -65 -66 -67 -68 -69 -70 -71 -72 -73 -
74 -75 -76 -77 -78 -79 -80 -81 -82 -83 -84 -85 -86 -87 -88 -89 -90 -91 -92 -93 -94 -95 -96

(2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52,
54, 56, 58, 60, 62, 64)
(66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 1
12, 114, 116, 118, 120, 122, 124, 126, 128)
(130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168,
170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192)
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1/c7x-mma-tidl/ti_dl/test/src/pc_linux$

```