

If Something is unclear, I can resubmit it. The answers are all in Putty pf the dot norm, dot product, negative array, sign changed, and reverse array. The code should be a clear indicator of the functions. I have calculated all the values on calculator and they match up.

```
1 #include "array_functions.h"
2 #include "mcc_generated_files/mcc.h"
3
4 /*
5 | | | | | Main application
6 */
7 void main(void)
8 {
9     // Initialize the device
10    SYSTEM_Initialize();
11
12    float A[] = {1.0, 2.2, 3.3, 4.4}, B[] = {0.5, -0.37, 6.25, -3.33}, NewArray[4];
13
14    int i;
15
16
17    printf("\n\nrnorm = %f", norm(A, 4));
18    printf("\n\rdot product of A and B is %f", dot_product(A, B, 4));
19
```

```
Available Resources x Pin Module x DMA Manager x main.c x array_functions.c x array_functions.h x
Source History
19
20     sign_change(A,4);
21     for(i=0;i<4;i++)
22     {
23         printf("\n\r sign flipped of A is %f",A[i]);
24     }
25
26
27     printf("\n\rNew Negative array of A is: ");
28     negative_array(A,NewArray,4);
29     for(i=0;i<4;i++)
30     {
31         printf(" %f",NewArray[i]);
32     }
33
34     printf("\n\rReverse array of A is: ");
35     reverse_array(A,NewArray,4);
36     for(i=0;i<4;i++)
37     {
38         printf(" %f",NewArray[i]);
39     }

```

COM4 - PuTTY

```
sign flipped of A is -1.000000
sign flipped of A is -2.200000
sign flipped of A is -3.300000
sign flipped of A is -4.400000
New Negative array of A is 1.000000New Negative array of A is 2.200000New Negative array of A is 3.300000New Negative array of A is 4.400000
norm = 6.007495
dot product of A and B is 5.659000
sign flipped of A is -1.000000
sign flipped of A is -2.200000
sign flipped of A is -3.300000
sign flipped of A is -4.400000
New Negative array of A is: 1.000000 2.200000 3.300000 4.400000
norm = 6.007495
dot product of A and B is 5.659000
New Negative array of A is: -1.000000 -2.200000 -3.300000 -4.400000
norm = 6.007495
dot product of A and B is 5.659000
sign flipped of A is -1.000000
sign flipped of A is -2.200000
sign flipped of A is -3.300000
sign flipped of A is -4.400000
New Negative array of A is: 1.000000 2.200000 3.300000 4.400000
Reverse array of A is: -4.400000 -3.300000 -2.200000 -1.000000
```

```
dates.h x dates.c x main.c x Available Resources x Pin Module x DMA Manager x System Module x Interrupt Module x array_functions.h x array_functions.c x
Source History
1 float norm(float A[], int array_size);
2 float dot_product(float A[], float B[], int array_size);
3 void sign_change(float A[], int array_size);
4 void negative_array(float A[],float B[], int array_size);
5 void reverse_array(float A[],float B[], int array_size);
6
```

```
dates.h x dates.c x main.c x Available Resources x Pin Module x DMA Manager x System Module x Interrupt Module x array_functions.h x array_functions.c x
Source History
1 #include "array_functions.h"
2 #include <stdio.h>
3 #include <stdlib.h>
4 #include <string.h>
5 #include <math.h>
6
7 float norm(float A[], int array_size)
8 {
9     int i;
10    float normvalue=0.0;
11    for(i=0;i<array_size;i++)
12    {
13        normvalue += A[i]*A[i];
14    }
15    return sqrt(normvalue);
16 }
17
18 float dot_product(float A[], float B[], int array_size)
19 {
20    float dot_product=0;
21    int i;
22    for(i=0;i<array_size;i++)
23    {
24        dot_product += A[i]*B[i];
25    }
26    return dot_product;
27 }
28
```

```
28
29 void sign_change(float A[], int array_size)
30 {
31     int i;
32     for(i=0;i<array_size;i++)
33     {
34         A[i]=-1*A[i];
35     }
36     return;
37 }
38
39 void negative_array(float A[],float B[], int array_size)
40 {
41     int i;
42     for(i=0;i<array_size;i++)
43     {
44         B[i]=-1*A[i];
45     }
46     return;
47 }
48
49 void reverse_array(float A[],float B[], int array_size)
50 {
51     int i;
52     for(i=0;i<array_size;i++)
53     {
54         B[i]= A[array_size-1-i];
55     }
```