```c
#include <stdio.h>
#include <stdlib.h>

int main(void)
{
    //function declarations
    void MathematicalOperations(int, int, int *, int *, int *, int *, int *);

    //variable declaration
    int a;
    int b;
    int *answer_sum = NULL;
    int *answer_difference = NULL;
    int *answer_product = NULL;
    int *answer_quotient = NULL;
    int *answer_remainder = NULL;

    //code
    printf("\n\n");
    printf("Enter Value Of 'A' : ");
    scanf("%d", &a);

    printf("\n\n");
    printf("Enter Value Of 'B' : ");
    scanf("%d", &b);

    // PASSING ADDRESSES TO FUNCTION ... FUNCTION WILL FILL THEM UP WITH VALUES ... HENCE, THEY GO INTO THE FUNCTION AS ADDRESS PARAMETERS AND COME OUT OF THE FUNCTION FILLED WITH VALID VALUES
    // THUS, (&answer_sum, &answer_difference, &answer_product, &answer_quotient, &answer_remainder) ARE CALLED "OUT PARAMETERS" OR "PARAMETERIZED RETURN VALUES" ... RETURN VALUES OF FUNCTIONS COMING VIA PARAMETERS
    // HENCE, ALTHOUGH EACH FUNCTION HAS ONLY ONE RETURN VALUE, USING THE CONCEPT OF "PARAMETERIZED RETURN VALUES", OUR FUNCTION "MathematicalOperations()" HAS GIVEN US 5 RETURN VALUES !!!

    answer_sum = (int *)malloc(1 * sizeof(int));
    if (answer_sum == NULL)
    {
        printf("Could Not Allocate Memory For 'answer_sum'. Exitting Now...\n\n");
        exit(0);
    }

    answer_difference = (int *)malloc(1 * sizeof(int));
    if (answer_difference == NULL)
    {
        printf("Could Not Allocate Memory For 'answer_difference'. Exitting Now...\n\n");
        exit(0);
    }

    answer_product = (int *)malloc(1 * sizeof(int));
    if (answer_product == NULL)
    {
```

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48          printf("Could Not Allocate Memory For 'answer_product'. Exitting
              Now...\n\n");
49          exit(0);
50      }
51
52      answer_quotient = (int *)malloc(1 * sizeof(int));
53      if (answer_quotient == NULL)
54      {
55          printf("Could Not Allocate Memory For 'answer_quotient'. Exitting
              Now...\n\n");
56          exit(0);
57      }
58
59      answer_remainder = (int *)malloc(1 * sizeof(int));
60      if (answer_remainder == NULL)
61      {
62          printf("Could Not Allocate Memory For 'answer_remainder'. Exitting
              Now...\n\n");
63          exit(0);
64      }
65
66      MathematicalOperations(a, b, answer_sum, answer_difference,
          answer_product, answer_quotient, answer_remainder);
67
68      printf("\n\n");
69      printf("****** RESULTS ****** \n\n");
70      printf("Sum = %d\n\n", *answer_sum);
71      printf("Difference = %d\n\n", *answer_difference);
72      printf("Product = %d\n\n", *answer_product);
73      printf("Quotient = %d\n\n", *answer_quotient);
74      printf("Remainder = %d\n\n", *answer_remainder);
75
76      if (answer_remainder)
77      {
78          free(answer_remainder);
79          answer_remainder = NULL;
80          printf("Memory Allocated For 'answer_remainder' Successfully Freed !!!
              \n\n");
81      }
82
83      if (answer_quotient)
84      {
85          free(answer_quotient);
86          answer_quotient = NULL;
87          printf("Memory Allocated For 'answer_quotient' Successfully Freed !!!
              \n\n");
88      }
89
90      if (answer_product)
91      {
92          free(answer_product);
93          answer_product = NULL;
94          printf("Memory Allocated For 'answer_product' Successfully Freed !!!\n
              \n");
95      }
96
```

```
 97      if (answer_difference)
 98      {
 99          free(answer_difference);
100          answer_difference = NULL;
101          printf("Memory Allocated For 'answer_difference' Successfully
               Freed !!!\n\n");
102      }
103
104      if (answer_sum)
105      {
106          free(answer_sum);
107          answer_sum = NULL;
108          printf("Memory Allocated For 'answer_sum' Successfully Freed !!!\n
               \n");
109      }
110
111      return(0);
112  }
113
114  void MathematicalOperations(int x, int y, int *sum, int *difference, int
       *product, int *quotient, int *remainder)
115  {
116      //code
117      *sum = x + y;         // Value at address 'sum' = (x + y)
118      *difference = x - y;  // Value at address 'difference' = (x - y)
119      *product = x * y;     // Value at address 'product' = (x * y)
120      *quotient = x / y;    // Value at address 'quotient' = (x / y)
121      *remainder = x % y;   // Value at address 'remainder' = (x % y)
122  }
123
```