Manish Kumar Singh C- Language Assignment

Question 1: Find the largest of three numbers

```
#include <stdio.h>
int main() {
   int a, b, c;
   printf("Enter three numbers: ");
   scanf("%d %d %d", &a, &b, &c);
   if (a >= b && a >= c)
      printf("Largest number: %d\n", a);
   else if (b >= a && b >= c)
      printf("Largest number: %d\n", b);
   else
      printf("Largest number: %d\n", c);
   return 0;
}
```

Question 2: Compute the perimeter and area of a rectangle

```
#include <stdio.h>
int main() {
   int height = 7, width = 5;
   int perimeter = 2 * (height + width);
   int area = height * width;
   printf("Perimeter: %d inches\n", perimeter);
   printf("Area: %d square inches\n", area);
   return 0;
}
```

Question 3: Convert days into years, weeks, and days

```
#include <stdio.h>
int main() {
```

```
    int days, years, weeks, remaining_days;
    printf("Enter the number of days: ");
    scanf("%d", &days);
    years = days / 365;
    weeks = (days % 365) / 7;
    remaining_days = (days % 365) % 7;
    printf("Years: %d, Weeks: %d, Days: %d\n", years, weeks, remaining_days);
    return 0;
}
```

Question 4: Convert seconds to hours, minutes, and seconds

```
#include <stdio.h>
int main() {
    int seconds, hours, minutes, remaining_seconds;
    printf("Input seconds: ");
    scanf("%d", &seconds);
    hours = seconds / 3600;
    minutes = (seconds % 3600) / 60;
    remaining_seconds = seconds % 60;
    printf("H:M:S - %d:%d:%d\n", hours, minutes, remaining_seconds);
    return 0;
}
```

Question 5: Check divisibility by 3 or 7

```
#include <stdio.h>
int main() {
    int num;
    printf("Enter a positive integer: ");
    scanf("%d", &num);
    if (num % 3 == 0 || num % 7 == 0)
        printf("True\n");
```

```
    else
        printf("False\n");

    return 0;
}
```

Question 6: Check if at least one number is in the range [20, 50]

```
#include <stdio.h>
int main() {
    int a, b, c;
    printf("Enter three numbers: ");
    scanf("%d %d %d", &a, &b, &c);
    if ((a >= 20 && a <= 50) || (b >= 20 && b <= 50) || (c >= 20 && c <= 50))
        printf("True\n");
    else
        printf("False\n");
    return 0;
}
```

Question 7: Compute product of digits in a number

```
#include <stdio.h>
int main() {
    int n, product = 1;
    printf("Enter a number: ");
    scanf("%d", &n);
    while (n > 0) {
        product *= n % 10;
        n /= 10;
    }
    printf("Product: %d\n", product);
    return 0;
```

```
}
```

Question 8: Find the nth term in the series

```
#include <stdio.h>
int main() {
    int n, term;
    printf("Enter n: ");
    scanf("%d", &n);
    if (n % 2 == 0) // Even position
        term = (n - 2) / 2;
    else // Odd position
        term = n - 1;
    printf("%d\n", term);
    return 0;
}
```

Question 9: Count duplicates in an array

```
#include <stdio.h>
int main() {
    int n, arr[100], count = 0;
    printf("Input the number of elements in the array: ");
    scanf("%d", &n);
    printf("Input %d elements in the array:\n", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    for (int i = 0; i < n; i++) {
        for (int j = i + 1; j < n; j++) {
            if (arr[i] == arr[j]) {
                count++;
                break;
```

```
            }
        }
    }

    printf("Total number of duplicate elements: %d\n", count);
    return 0;
}
```

Question 10: Count frequency of each element in an array

```
#include <stdio.h>
int main() {
    int n, arr[100], freq[100] = {0};
    printf("Input the number of elements in the array: ");
    scanf("%d", &n);
    printf("Input %d elements in the array:\n", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
        freq[arr[i]]++;
    }

    printf("Frequency of elements:\n");
    for (int i = 0; i < n; i++) {
        if (freq[arr[i]] != 0) {
            printf("%d occurs %d times\n", arr[i], freq[arr[i]]);
            freq[arr[i]] = 0;
        }
    }
    return 0;
}
```

Question 11: Sum of elements divisible by 3 and 5

```
#include <stdio.h>
int sumDivisibleBy3And5(int arr[], int n) {
    int sum = 0, oddSum = 0, divisible = 0;
    for (int i = 0; i < n; i++) {
        if (arr[i] % 3 == 0 && arr[i] % 5 == 0)
            divisible += arr[i];
        else if (arr[i] % 2 != 0)
            oddSum += arr[i];
    }

    return (divisible > 0) ? divisible : oddSum;
}

int main() {
    int n, arr[100];
    printf("Input the number of elements in the array: ");
    scanf("%d", &n);
    printf("Input %d elements in the array:\n", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    int result = sumDivisibleBy3And5(arr, n);
    printf("Result: %d\n", result);
    return 0;
}
```

Question 12: Row-wise and column-wise totals of a matrix

```
#include <stdio.h>
int main() {
    int arr[4][5], rowSum, colSum;
    printf("Input the elements of the 4x5 matrix:\n");
```

```
    for (int i = 0; i < 4; i++) {
        for (int j = 0; j < 5; j++) {
            scanf("%d", &arr[i][j]);
        }
    }
    printf("Row-wise totals:\n");
    for (int i = 0; i < 4; i++) {
        rowSum = 0;
        for (int j = 0; j < 5; j++) {
            rowSum += arr[i][j];
        }
        printf("Row %d total: %d\n", i + 1, rowSum);
    }
    printf("Column-wise totals:\n");
    for (int j = 0; j < 5; j++) {
        colSum = 0;
        for (int i = 0; i < 4; i++) {
            colSum += arr[i][j];
        }
        printf("Column %d total: %d\n", j + 1, colSum);
    }
    return 0;
}
```