Lab Sheet 3

Q1.

```c
#include <stdio.h> // Include standard input-output header file

//Method declared as main

int main(void) {

    int number; // Declare an integer variable 'number'


    printf("Enter a number: "); // Prompt user to enter a number

    scanf("%d", &number); // Read the user input and store it in 'number'


    printf("You entered: %d\n", number); // Print the entered number

    return 0; // Indicate that the program ended successfully

}
```

Q2.

```c
#include <stdio.h>

int main()
{
    int k = 0; // Added this line to initialize k
    int i = k + 2;
    printf("The number i is %d\n", i);

    return 0;
}
```

Q2 PT b.

```c
#include <stdio.h>

int main()
{
    int i, j, k;
    i = j = k = 2;
    printf("The number i, j and k are %d %d %d\n", i, j, k);

    return 0;
}
```

Q3.

```c
#include <stdio.h>

int main() {
    int a, b, c;

    printf("Enter three integers: ");
    scanf("%d %d %d", &a, &b, &c);

    printf("Addition: %d\n", a + b + c);
    printf("Subtraction: %d\n", a - b - c);
    printf("Multiplication: %d\n", a * b * c);

    return 0;
}
```

Q4.

```c
#include <stdio.h>

int main() {
    printf("Size of int: %zu bytes\n", sizeof(int));
    printf("Size of float: %zu bytes\n", sizeof(float));
    printf("Size of double: %zu bytes\n", sizeof(double));
    printf("Size of char: %zu bytes\n", sizeof(char));

    return 0;
}
```

Q5.

```c
#include <stdio.h>

int main() {
    int a = 125, b = 12345;
    long ax = 1234567890;
    short s = 4043;
    float x = 2.13459;
    double dx = 1.1415927;
    char c = 'W';
    unsigned long ux = 2541567890;

    printf("%d\n", a + c);
    printf("%f\n", x + c);
    printf("%f\n", dx + x);
    printf("%ld\n", ((int) dx) + ax);
    printf("%f\n", a + x);
    printf("%d\n", s + b);
    printf("%ld\n", ax + b);
    printf("%d\n", s + c);
    printf("%ld\n", ax + c);
    printf("%lu\n", ax + ux);

    return 0;
}
```

Q6.

```c
#include <stdio.h>

int main() {
    double a = 6.5;
    a += a + 1;
    printf("%f\n", a);
    a = 6;
    a /= 2;
    printf("%f\n", a);

    return 0;
}
```

Output: 1. 7.5   2. 3

Q7.

```c
#include <stdio.h>

int main() {
    int x = 5, y = 3, z = 2, w = 7, v = 10, u = 4, t = 6, s = 8, r = 12, q = 9, p = 15, o = 11;

    printf("%d\n", ((x + y) * z) - (w / y));
    printf("%d\n", ((v - z) * u) + (t / z));
    printf("%d\n", ((s / u) + (r * z)) - (q - y));
    printf("%d\n", ((p / y) * (w - u)) + (o / z));

    return 0;  }
```

Q8.

```c
#include <stdio.h>
int main() {
    int code;
    float price;
    int quantity;
    char stock_status;

    printf("Enter product Code: ");
    scanf("%d", &code);

    printf("Enter price: ");
    scanf("%f", &price);

    printf("Enter quantity available: ");
    scanf("%d", &quantity);

    printf("Is the product in stock? (Y/N): ");
    scanf(" %c", &stock_status);

    printf("Product Details:\n");
    printf("Code: %d\n", code);
    printf("Price: %.2f\n", price);
    printf("Quantity available: %d\n", quantity);
    printf("Stock status: %c\n", stock_status);
```

```c
    return 0;
}
```

Q9.

```c
#include <stdio.h>

int main() {
    int seconds, hours, minutes;

    printf("Input seconds: ");
    scanf("%d", &seconds);

    hours = seconds / 3600;
    minutes = (seconds % 3600) / 60;
    seconds = seconds % 60;

    printf("There are:\n");
    printf("H:M:S - %d:%d:%d\n", hours, minutes, seconds);

    return 0;
}
```

Q10.

```c
#include <stdio.h>

int main() {
    char ch;

    printf("Enter a character: ");
    scanf("%c", &ch);

    printf("ASCII value of %c = %d\n", ch, ch);

    return 0;
}
```

Q11.

```c
#include <stdio.h>

int main() {
    char lowercase;

    printf("Enter a lowercase letter: ");
    scanf("%c", &lowercase);

    printf("Uppercase letter: %c\n", lowercase - 32);

    return 0;
}
```

Q12.

```c
#include <stdio.h>

int main() {
    int a, b, temp;

    printf("Enter two numbers: ");
    scanf("%d %d", &a, &b);

    temp = a;
    a = b;
    b = temp;

    printf("After swapping: a = %d, b = %d\n", a, b);

    return 0;
}
```

Q13.

```c
#include <stdio.h>

int main() {
    float weight1, weight2;
    int count1, count2;
    float average;

    printf("Weight - Item1: ");
    scanf("%f", &weight1);

    printf("No. of item1: ");
    scanf("%d", &count1);

    printf("Weight - Item2: ");
    scanf("%f", &weight2);

    printf("No. of item2: ");
    scanf("%d", &count2);

    average = ((weight1 * count1) + (weight2 * count2)) / (count1 + count2);

    printf("Average Value = %f\n", average);

    return 0;
}
```

Q14.

```c
#include <stdio.h>

int main() {
    int distance;
    float fuel, consumption;

    printf("Input total distance in km: ");
    scanf("%d", &distance);

    printf("Input total fuel spent in liters: ");
    scanf("%f", &fuel);

    consumption = distance / fuel;

    printf("Average consumption (km/lt) %.2f\n", consumption);

    return 0;
}
```

Q15.

```c
#include <stdio.h>

int main() {
    float length, width, cost_per_square_meter, total_cost;

    printf("Enter the length of the room: ");
    scanf("%f", &length);

    printf("Enter the width of the room: ");
    scanf("%f", &width);

    printf("Enter the cost per square meter of carpet: ");
    scanf("%f", &cost_per_square_meter);

    total_cost = length * width * cost_per_square_meter;

    printf("Total cost of carpeting the room: %.2f\n", total_cost);

    return 0;
}
```