

3)

a) #include <stdio.h>

```
int main() {  
    printf("Hello World\n");  
    return 0;  
}
```

b) #include <stdio.h>

```
int main() {  
    int num1, num2, sum;  
    printf("Enter two numbers: ");  
    scanf("%d %d", &num1, &num2);  
    sum = num1 + num2;  
    printf("The sum of the two numbers is: %d\n", sum);  
    return 0;  
}
```

c) #include <stdio.h>

```
int main() {  
    float radius, area, pi = 3.14;  
    printf("Enter the radius of the circle: ");  
    scanf("%f", &radius);  
    area = pi * radius * radius;  
    printf("The area of the circle is: %.2f\n", area);  
    return 0;  
}
```

d) #include <stdio.h>

```
int main() {  
    int a, b, c, d, e, f, g;  
    float result;  
    printf("Enter the values of a, b, c, d, e, f, and g: ");  
    scanf("%d %d %d %d %d %d %d", &a, &b, &c, &d, &e, &f, &g);
```

```

    result = (((a - b / c * d) + e) * (f + g));

    printf("The value of the expression is: %f\n", result);

    return 0;
}

```

4) #include <stdio.h>

```

int main() {

    int num1, num2, num3;

    printf("Enter three numbers: ");

    scanf("%d %d %d", &num1, &num2, &num3);

    int largest = num1;

    if (num2 > largest) {

        largest = num2;

    }

    if (num3 > largest) {

        largest = num3;

    }

    printf("The largest number is %d\n", largest);

    return 0;

}

```

5) #include <stdio.h>

```

int main() {

    int n, i, flag = 0;

    printf("Enter a natural number: ");

    scanf("%d", &n);

    if (n <= 1) {

        printf("The number is not prime.\n");

        return 0;

    }

    for (i = 2; i <= n / 2; i++) {

        if (n % i == 0) {

            flag = 1;

```

```

        break;
    }
}
if (flag == 0) {
    printf("The number is prime.\n");
} else {
    printf("The number is not prime.\n");
}
return 0;
}

```

```

6) #include <math.h>
#include <stdio.h>
int main() {
    int num, originalNum, remainder, n = 0;
    float result = 0.0;
    printf("Enter an integer: ");
    scanf("%d", &num);
    originalNum = num;
    for (originalNum = num; originalNum != 0; ++n) {
        originalNum /= 10;
    }
    for (originalNum = num; originalNum != 0; originalNum /= 10) {
        remainder = originalNum % 10;
        result += pow(remainder, n);
    }
    if ((int)result == num)
        printf("%d is an Armstrong number.", num);
    else
        printf("%d is not an Armstrong number.", num);
    return 0;
}

```

7) #include <stdio.h>

```
int main() {  
    int n, i, sum = 0;  
    float avg;  
    printf("Enter the number of integers: ");  
    scanf("%d", &n);  
    int arr[n];  
    for (i = 0; i < n; i++) {  
        printf("Enter integer %d: ", i + 1);  
        scanf("%d", &arr[i]);  
    }  
    for (i = 0; i < n; i++) {  
        sum += arr[i];  
    }  
  
    avg = sum / n;  
    printf("The sum of the integers is %d\n", sum);  
    printf("The average of the integers is %.2f\n", avg);  
    return 0;  
}
```

8) #include <stdio.h>

```
int main() {  
    int n, searchElement, i, found = 0;  
    printf("Enter the number of integers: ");  
    scanf("%d", &n);  
    int arr[n];  
    printf("Enter %d integers:\n", n);  
    for (i = 0; i < n; i++) {  
        scanf("%d", &arr[i]);  
    }  
    printf("Enter the element to search: ");  
    scanf("%d", &searchElement);
```

```

for (i = 0; i < n; i++) {
    if (arr[i] == searchElement) {
        found = 1;
        break;
    }
}
if (found) {
    printf("%d is found at index %d\n", searchElement, i);
} else {
    printf("%d is not found in the array\n", searchElement);
}
return 0;
}

```

9) #include <stdio.h>

```

int main() {
    int n, i, j, temp;
    printf("Enter the number of integers: ");
    scanf("%d", &n);

```

```

    int arr[n];
    printf("Enter %d integers:\n", n);
    for (i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    for (i = 0; i < n - 1; i++) {
        for (j = 0; j < n - i - 1; j++) {
            if (arr[j] > arr[j + 1]) {
                temp = arr[j];
                arr[j] = arr[j + 1];
                arr[j + 1] = temp;
            }
        }
    }
}

```

```
}  
printf("Sorted array in ascending order:\n");  
for (i = 0; i < n; i++) {  
    printf("%d ", arr[i]);  
}  
printf("\n");  
return 0;  
}
```