```c
#include <stdio.h>

int main() {
    int num;

    printf("Enter a number: ");
    scanf("%d", &num);

    if (num % 5 == 0 && num % 11 == 0) {
        printf("%d is divisible by both 5 and 11.\n", num);
    } else {
        printf("%d is not divisible by both 5 and 11.\n", num);
    }

    return 0;
}
```

```
Enter a number: 8
8 is positive.

Enter a number: -5
-5 is negative.

Enter a number: 0
The number is zero.
```

```c
#include <stdio.h>

int main() {
    int num;

    printf("Enter a number: ");
    scanf("%d", &num);

    if (num > 0) {
        printf("%d is positive.\n", num);
    } else if (num < 0) {
        printf("%d is negative.\n", num);
    } else {
        printf("The number is zero.\n");
    }

    return 0;
}
```

```
Enter a number: 55
55 is divisible by both 5 and 11.

Enter a number: 45
45 is not divisible by both 5 and 11.

Enter a number: 110
110 is divisible by both 5 and 11.
```

```c
#include <stdio.h>

int main() {
    char ch;

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

    if ((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z')) {
        printf("%c is an alphabet.\n", ch);
    } else {
        printf("%c is not an alphabet.\n", ch);
    }

    return 0;
}
```

```
Enter a character: A
A is an alphabet.

Enter a character: @
@ is not an alphabet.

Enter a character: x
x is an alphabet.
```

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

int main() {
    char str[100];
    int i, len, vowels;

    printf("Enter a string: ");
    gets(str);

    len = strlen(str);
    vowels = 0;

    for (i = 0; i < len; i++) {
        if (str[i] == 'a' || str[i] == 'e' || str[i] == 'i' || str[i] == 'o' || st
            str[i] == 'A' || str[i] == 'E' || str[i] == 'I' || str[i] == 'O' || st
            vowels++;
        }
    }

    printf("Number of vowels in the string: %d\n", vowels);

    return 0;
}
```

```
Enter a string: Hello World
Number of vowels in the string: 3

Enter a string: This is a test sentence.
Number of vowels in the string: 8
```

```c
#include <stdio.h>

int main() {
    char ch;

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

    if (ch >= 'a' && ch <= 'z') {
        printf("%c is a lowercase alphabet.\n", ch);
    } else if (ch >= 'A' && ch <= 'Z') {
        printf("%c is an uppercase alphabet.\n", ch);
    } else {
        printf("%c is not an alphabet.\n", ch);
    }

    return 0;
}
```

```
Enter a character: A
A is an uppercase alphabet.

Enter a character: b
b is a lowercase alphabet.

Enter a character: 3
3 is not an alphabet.
```

```c
#include <stdio.h>

int main() {
    int amount, note500, note100, note50, note20, note10, note5, note2, note1;

    printf("Enter the amount: ");
    scanf("%d", &amount);

    note500 = amount / 500;
    amount %= 500;

    note100 = amount / 100;
    amount %= 100;

    note50 = amount / 50;
    amount %= 50;

    note20 = amount / 20;
    amount %= 20;

    note10 = amount / 10;
    amount %= 10;

    note5 = amount / 5;
    amount %= 5;

    note2 = amount / 2;
    amount %= 2;

    note1 = amount;

    printf("Minimum number of notes required:\n");
    printf("Rs. 500: %d\n", note500);
    printf("Rs. 100: %d\n", note100);
    printf("Rs. 50: %d\n", note50);
    printf("Rs. 20: %d\n", note20);
    printf("Rs. 10: %d\n", note10);
    printf("Rs. 5: %d\n", note5);
    printf("Rs. 2: %d\n", note2);
    printf("Rs. 1: %d\n", note1);

    return 0;
}
```

```
Enter the amount: 786
Minimum number of notes required:
Rs. 500: 1
Rs. 100: 2
Rs. 50: 1
Rs. 20: 1
Rs. 10: 1
Rs. 5: 1
Rs. 2: 0
Rs. 1: 1
```

```c
#include <stdio.h>

int main() {
    int num, count = 0;

    printf("Enter an integer: ");
    scanf("%d", &num);

    while(num != 0) {
        count++;
        num /= 10;
    }

    printf("Number of digits: %d\n", count);

    return 0;
}
```

```
Enter an integer: 12345
Number of digits: 5
```

```c
#include <stdio.h>

int main() {
    int num, sum = 0;

    printf("Enter an integer: ");
    scanf("%d", &num);

    for(int i = num; i != 0; i /= 10) {
        sum += i % 10;
    }

    printf("Sum of digits: %d\n", sum);

    return 0;
}
```

```
Enter an integer: 12345
Sum of digits: 15
```

```c
#include <stdio.h>

int main() {
    int num, reversed_num = 0;

    printf("Enter an integer: ");
    scanf("%d", &num);

    for(int i = num; i != 0; i /= 10) {
        reversed_num = reversed_num * 10 + i % 10;
    }

    printf("Reverse of %d is %d\n", num, reversed_num);

    return 0;
}
```

```
Enter an integer: 12345
Reverse of 12345 is 54321
```

```c
#include <stdio.h>

int main() {
    int decimal_num, binary_num[32], i = 0;

    printf("Enter a decimal number: ");
    scanf("%d", &decimal_num);

    while(decimal_num > 0) {
        binary_num[i] = decimal_num % 2;
        decimal_num /= 2;
        i++;
    }

    printf("Binary equivalent: ");
    for(int j = i - 1; j >= 0; j--) {
        printf("%d", binary_num[j]);
    }

    return 0;
}
```

```
Enter a decimal number: 42
Binary equivalent: 101010
```