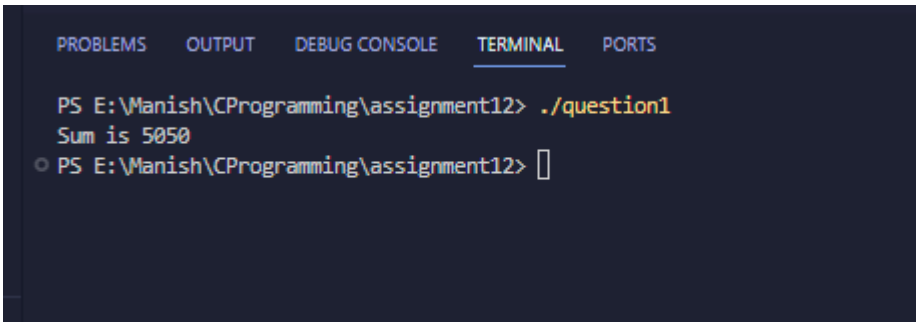
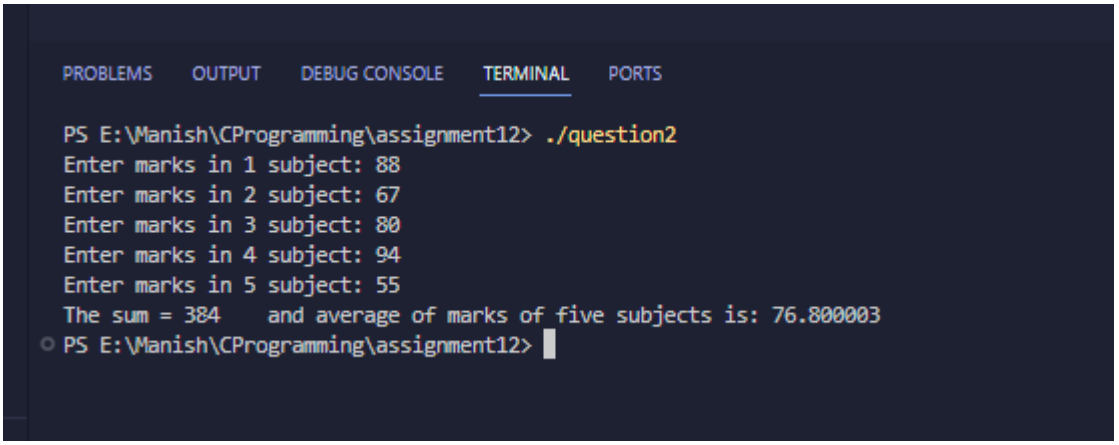
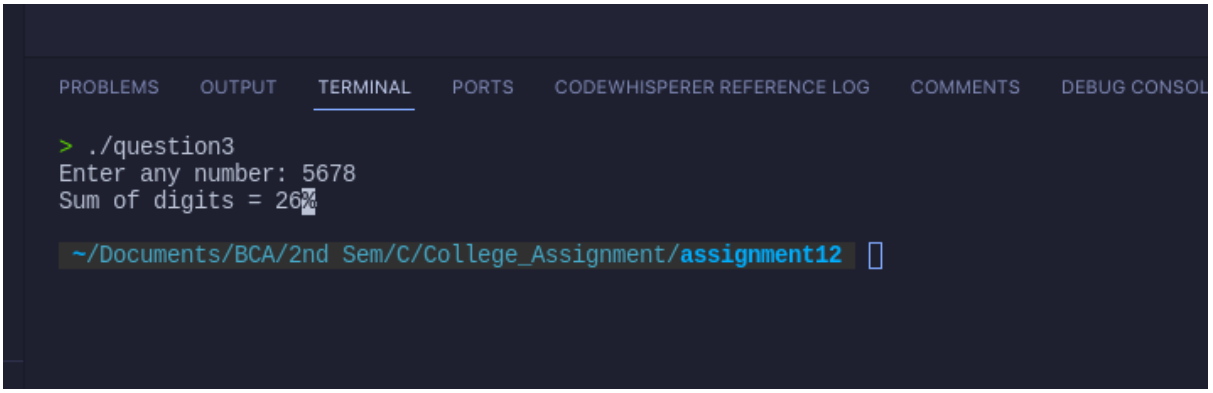
```c
// Program to sum all integers from 1 to 100 using while loop.
#include <stdio.h>
int main()
{
    int sum = 0, i = 1;
    while (i <= 100)
    {
        sum += i;
        i++;
    }
    printf("Sum is %d", sum);
    return 0;
}
```



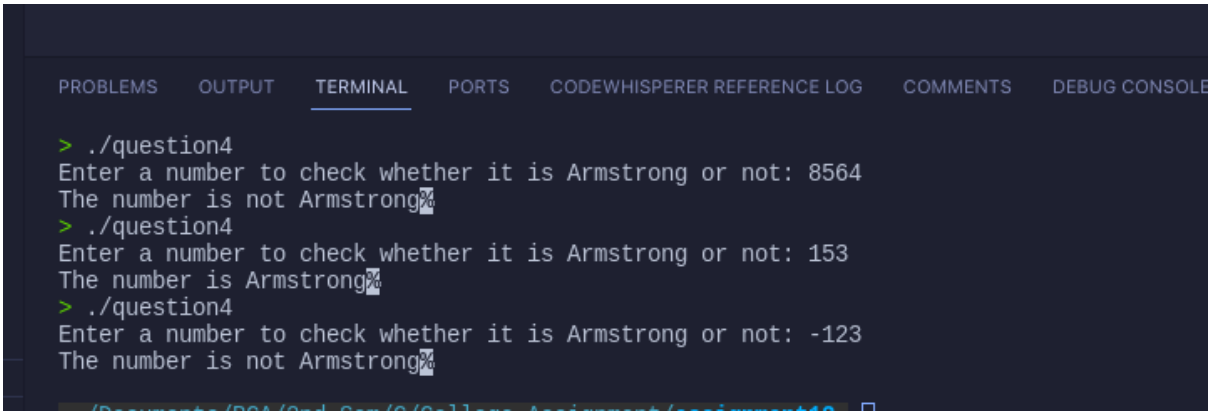
```c
// Program to find the sum and average of the mark of five subjects using while loop.
#include <stdio.h>
int main()
{
    int marks, total, i;
    float average;
    total = 0;
    i = 1;
    while (i <= 5)
    {
        printf("Enter marks in %d subject: ", i);
        scanf("%d", &marks);
        total += marks;
        i++;
    }
    average = (float)total / 5;
    printf("The sum = %d\t and average of marks of five subjects is: %f", total, average);
    return 0;
}
```



```c
// Program to find the sum of digits of any num supplied by the user.
#include <stdio.h>
int main()
{
    int num, sum = 0, rem;
    printf("Enter any number: ");
    scanf("%d", &num);
    while (num > 0)
    {
        rem = num % 10;  // Get the last digit
        sum += rem;      // Add it to sum
        num /= 10;      // Remove the last digit
    }
    printf("Sum of digits = %d", sum);
    return 0;
}
```



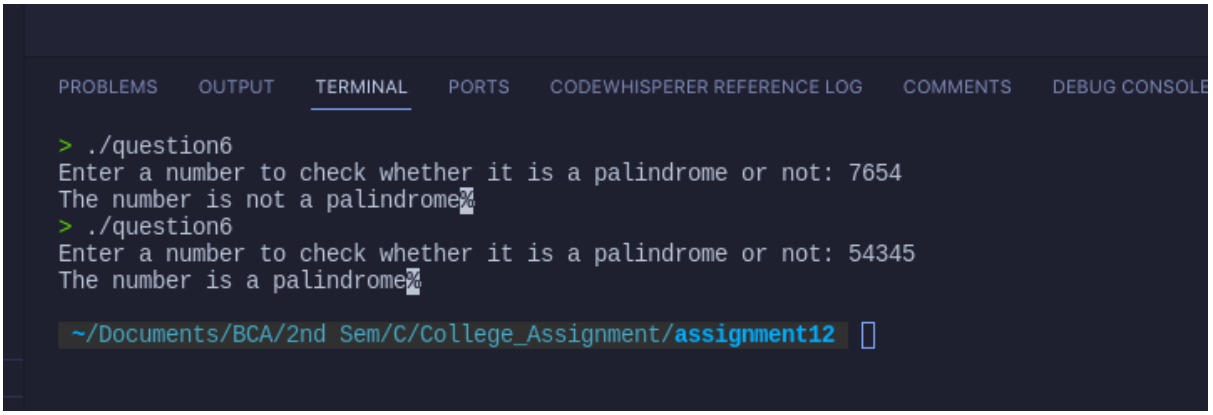
```c
// Program to check whether a given number is an Armstrong number.
// An armstrong number is a number which equal to the sum of the cubes of its individual digits.
#include <stdio.h>

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

    // Input from the user
    printf("Enter a number to check whether it is an Armstrong number: ");
    scanf("%d", &num);
    originalNum = num;

    // Calculate the sum of digits raised to the power of the number of digits
    while (num > 0)
    {
        digit = num % 10;
        sum += digit * digit * digit;
        num /= 10;
    }

    // Check if it's an Armstrong number and display the result
    if (originalNum == sum)
    {
        printf("The number is an Armstrong number.");
    }
    else
    {
        printf("The number is not an Armstrong number.");
    }

    return 0;
}

```



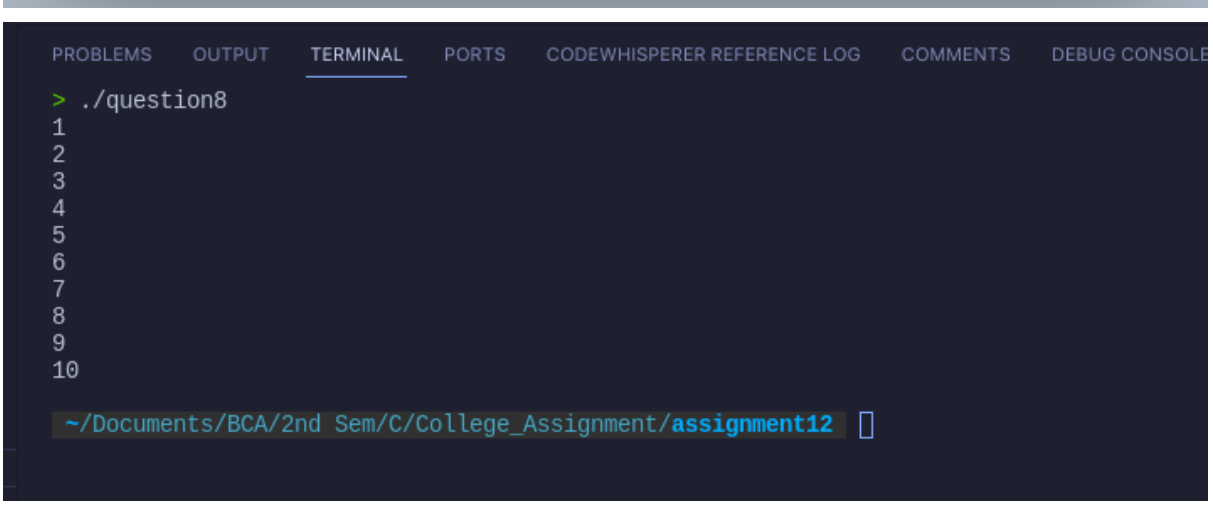
```c
// Program to read a number and find and display its reverse
#include <stdio.h>
int main()
{
    int num, reverse = 0, remainder;
    printf("Enter a number to reverse: ");
    scanf("%d", &num);
    while (num != 0)
    {
        remainder = num % 10;
        reverse = reverse * 10 + remainder;
        num /= 10;
    }
    printf("Reversed number: %d", reverse);
    return 0;
}
```

```
PROBLEMS  OUTPUT  TERMINAL  PORTS  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question5
Enter a number to reverse: 345
Reversed number: 543%
> ./question5
Enter a number to reverse: 649
Reversed number: 946%

~/Documents/BCA/2nd Sem/C/College_Assignment/assignment12
```

```c
// Program to read a number from keyboard and check whether it is a palindrome or not
#include <stdio.h>
int main()
{
    int num, rev = 0, rem, originalNum;
    printf("Enter a number to check whether it is a palindrome or not: ");
    scanf("%d", &num);
    originalNum = num;
    while (num != 0)
    {
        rem = num % 10;
        rev = rev * 10 + rem;
        num /= 10;
    }
    if (originalNum == rev)
    {
        printf("The number is a palindrome");
    }
    else
    {
        printf("The number is not a palindrome");
    }
    return 0;
}
```



```c
// Program to print out all numbers from 1 to 10 using for do-while loop
#include <stdio.h>
int main()
{
    int x = 1;
    do
    {
        printf("%d\n", x);
        x++;
    } while (x <= 10);
    return 0;
}
```



```c
// Program to convert decimal number into binary
#include <stdio.h>

int main() {
    int decimalNumber, remainder, binary = 0, base = 1;

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

    while (decimalNumber > 0) {
        remainder = decimalNumber % 2;    // Get the remainder when dividing by 2
        binary = binary + remainder * base;
        decimalNumber = decimalNumber / 2; // Update decimal number
        base = base * 10;
    }

    printf("The binary equivalent is: %d\n", binary);

    return 0;
}

```

```c
// Program to find the Fibonacci sequence 1, 1, 2, 3, 5, 8, 13, 21, 34, ...
#include <stdio.h>
int main()
{
    int fib1, fib2, prev, next, num;
    fib1 = 1;
    fib2 = 1;
    prev = fib1;
    printf("Enter number upto which you want fibonacci series: ");
    scanf("%d", &num);
    printf("%d", fib1);
    do
    {
        next = fib2 + prev;
        prev = fib2;
        fib2 = next;
        printf(",%d", prev);
    } while (num > next);
    return 0;
}
```

```
PROBLEMS  OUTPUT  TERMINAL  PORTS  CODEWHISPERER REFERENCE LOG  COMMENTS  DEBUG CONSOLE

> ./question9
Enter number upto which you want fibonacci series: 25
1,1,2,3,5,8,13,21%
> ./question9
Enter number upto which you want fibonacci series: 550
1,1,2,3,5,8,13,21,34,55,89,144,233,377%

~/Documents/BCA/2nd Sem/C/College_Assignment/assignment12
```