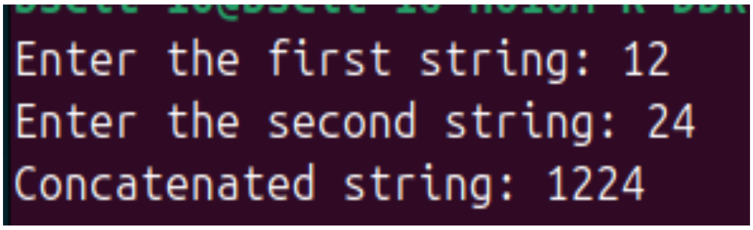
Q-1: Concatenate two strings

```
 #include <stdio.h>
int main()
 {
    char str1[100], str2[100];
    int i = 0, j = 0;
    printf("Enter first string: ");
    scanf("%s", str1);
    printf("Enter second string: ");
    scanf("%s", str2);
    while (str1[i] != '\0') {
        i++;
    }
    while (str2[j] != '\0') {
        str1[i] = str2[j];
        i++;
        j++;
    }
    str1[i] = '\0';

      printf("Concatenated string: %s\n", str1);

    return 0;
}
```



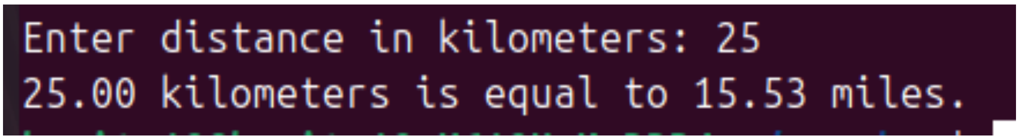
```
Enter the first string: 12
Enter the second string: 24
Concatenated string: 1224
```

Q-2:Check whether a number is Armstrong

```
#include <stdio.h>
int main()
 {
    int num, originalNum, remainder, result = 0, n = 0;
    printf("Enter a number: ");
    scanf("%d", &num);

    originalNum = num;
    while (originalNum != 0)
   {
        originalNum /= 10;
        n++;
    }
    originalNum = num;
    while (originalNum != 0) {
        remainder = originalNum % 10;
        result += pow(remainder, n);
        originalNum /= 10;
    }
    if (result == num)
        printf("%d is an Armstrong number.\n", num);
    else
        printf("%d is not an Armstrong number.\n", num);

    return 0;
}
```

Q-3: Convert kilometers to miles

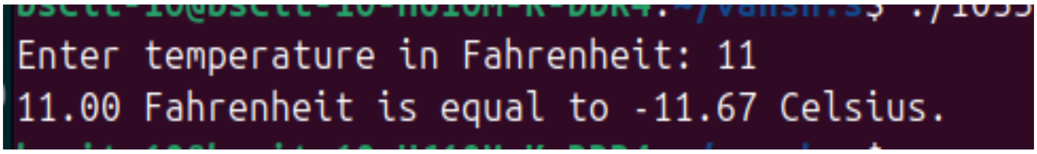
```
#include <stdio.h>
int main()
{
    float kilometers, miles;
    const float conversionFactor = 0.621371;
    printf("Enter distance in kilometers: ");
    scanf("%f", &kilometers);
    miles = kilometers * conversionFactor;
    printf("%.2f kilometers is equal to %.2f miles.\n", kilometers,
miles);

    return 0;
}
```



```
Enter distance in kilometers: 25
25.00 kilometers is equal to 15.53 miles.
```

Q-4: Convert Fahrenheit to Celsius

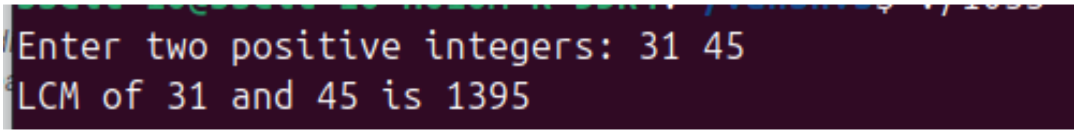
```
#include <stdio.h>
int main()
 {
   float fahrenheit, celsius;
   printf("Enter temperature in Fahrenheit: ");
   scanf("%f", &fahrenheit);
   celsius = (fahrenheit - 32) * 5 / 9;
   printf("%.2f Fahrenheit is equal to %.2f Celsius.\n", fahrenheit,
celsius);
   return 0;
}
```



```
Enter temperature in Fahrenheit: 11
11.00 Fahrenheit is equal to -11.67 Celsius.
```

Q-5: Compute the LCM of two numbers

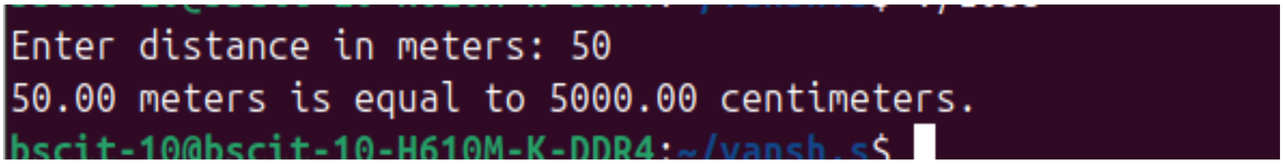
```
#include <stdio.h>
int main()
{
    int num1, num2, max;
    printf("Enter two positive integers: ");
    scanf("%d %d", &num1, &num2);
    max = (num1 > num2) ? num1 : num2;
    while (1) {
        if (max % num1 == 0 && max % num2 == 0)
        {
            printf("LCM of %d and %d is %d\n", num1, num2, max);
            break;
        }
        max++;
    }

    return 0;
}
```



```
Enter two positive integers: 31 45
LCM of 31 and 45 is 1395
```

Q6: Convert meters to centimeters

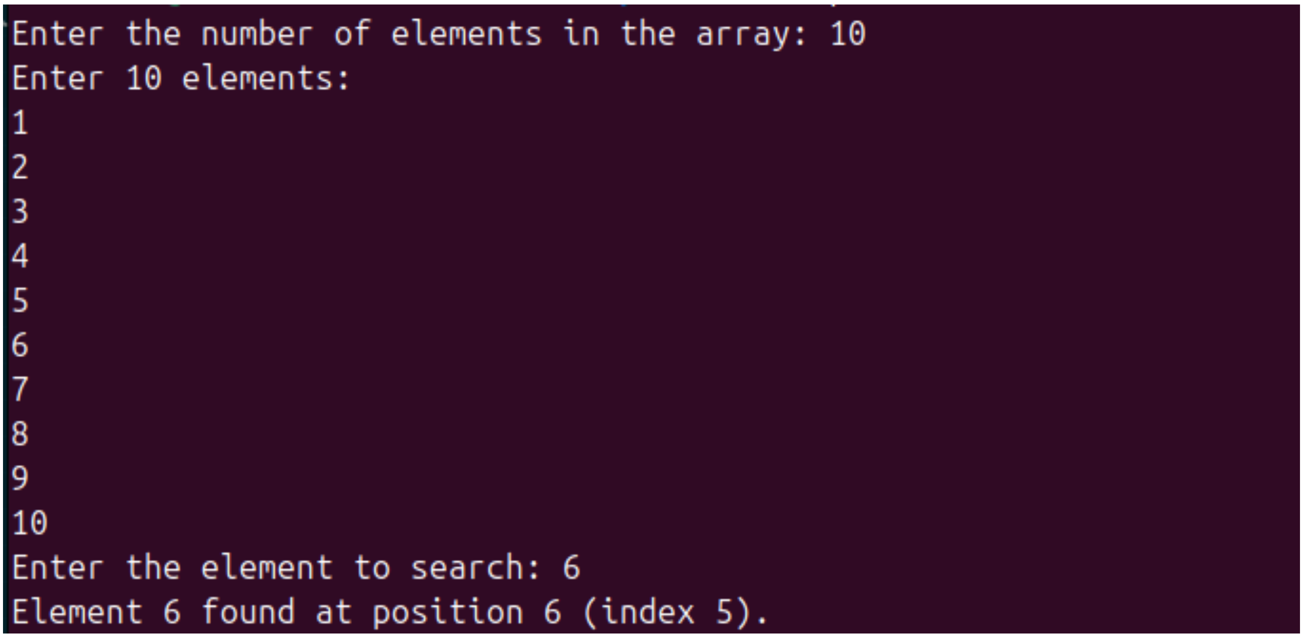
```
#include <stdio.h>
int main()
 {
    float meters, centimeters;
    printf("Enter distance in meters: ");
    scanf("%f", &meters);
    centimeters = meters * 100;
    printf("%.2f meters is equal to %.2f centimeters.\n", meters, centimeters);

    return 0;
}
```



```
Enter distance in meters: 50
50.00 meters is equal to 5000.00 centimeters.
bscit-10@bscit-10-H610M-K-DDR4:~/vansh.s$
```

Q7: Search for an element in an array

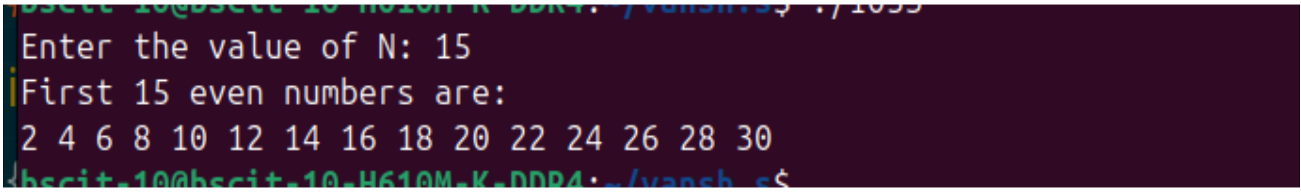
```
#include <stdio.h>
int main()
{
    int array[100], size, i, search, found = 0;
    printf("Enter the number of elements in the array: ");
    scanf("%d", &size);
    printf("Enter %d elements:\n", size);
    for(i = 0; i < size; i++) {
        scanf("%d", &array[i]);
    }
    printf("Enter the element to search: ");
    scanf("%d", &search);
    for(i = 0; i < size; i++) {
        if(array[i] == search) {
            printf("Element %d found at position %d (index %d).\n",
search, i + 1, i);
            found = 1;
            break;
        }
    }

    if(!found)
    {
        printf("Element %d not found in the array.\n", search);
    }

    return 0;
}
```



```
Enter the number of elements in the array: 10
Enter 10 elements:
1
2
3
4
5
6
7
8
9
10
Enter the element to search: 6
Element 6 found at position 6 (index 5).
```

Q-8:Print the first N even numbers

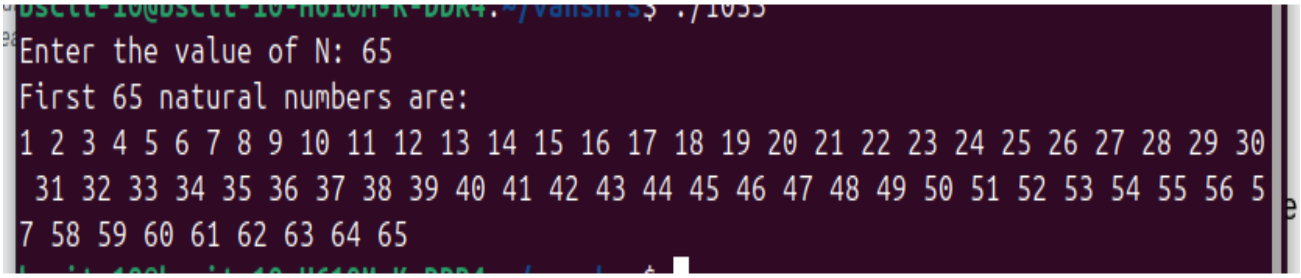
```
#include <stdio.h>
int main()
{
    int N, i;
    printf("Enter the value of N: ");
    scanf("%d", &N);
    printf("First %d even numbers are:\n", N);
    for(i = 1; i <= N; i++) {
        printf("%d ", 2 * i);
    }
    printf("\n");
    return 0;
}
```



```
bscit-10@bscit-10-H610M-K-DDR4:~/vansh.s$ ./[illegible]
Enter the value of N: 15
First 15 even numbers are:
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
bscit-10@bscit-10-H610M-K-DDR4:~/vansh.s$
```

Q-9:Print the first N natural numbers

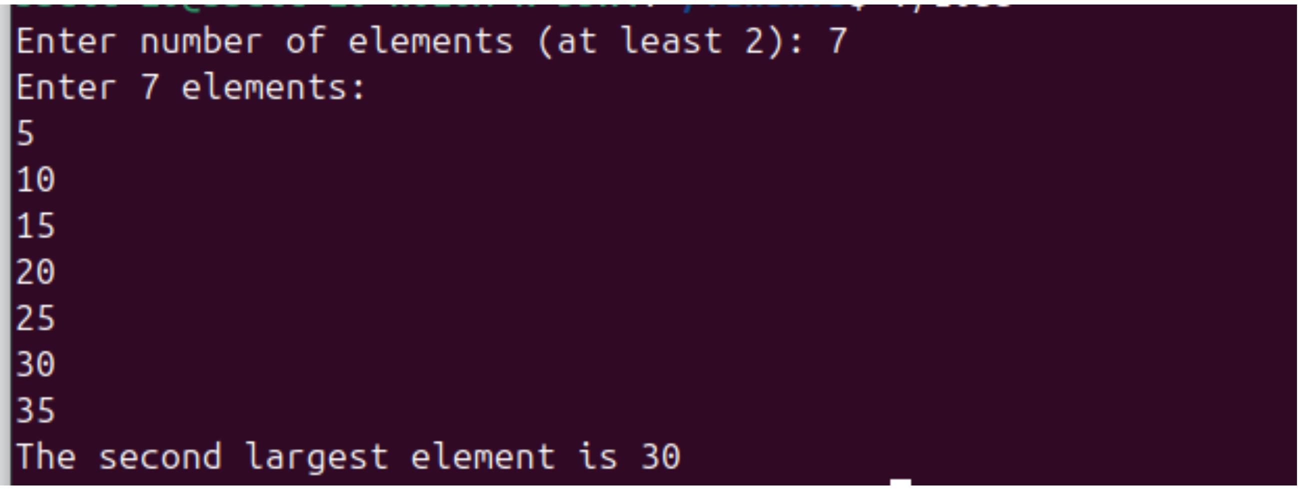
```
#include <stdio.h>
int main()
  {
    int N, i;
    printf("Enter the value of N: ");
    scanf("%d", &N);
    printf("First %d natural numbers are:\n", N);
    for(i = 1; i <= N; i++) {
        printf("%d ", i);
    }
     printf("\n");
    return 0;
}
```



```
bscit-10@bscit-10-H610M-K-DDR4:~/vansh.s$ ./1033
Enter the value of N: 65
First 65 natural numbers are:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 5
7 58 59 60 61 62 63 64 65
```

Q10: Find the second largest element in an array

```
#include <stdio.h>
int main()
 {
   int arr[100], n, i;
   int first, second;
   printf("Enter number of elements (at least 2): ");
   scanf("%d", &n);
   if(n < 2) {
       printf("Array must have at least two elements.\n");
       return 1;
   }
   printf("Enter %d elements:\n", n);
   for(i = 0; i < n; i++) {
       scanf("%d", &arr[i]);
   }
   first = second = -2147483648;

   for(i = 0; i < n; i++) {
       if(arr[i] > first) {
           second = first;
           first = arr[i];
       } else if(arr[i] > second && arr[i] != first) {
           second = arr[i];
       }
   }

   if(second == -2147483648) {
       printf("There is no distinct second largest element.\n");
   } else {
       printf("The second largest element is %d\n", second);
   }

   return 0;
}
```



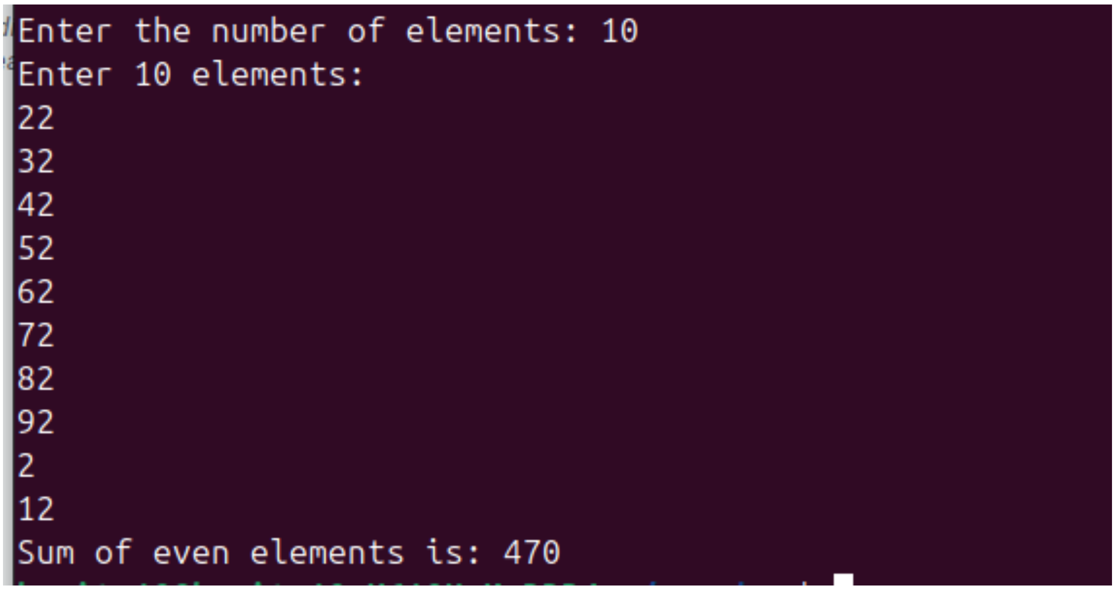
```
Enter number of elements (at least 2): 7
Enter 7 elements:
5
10
15
20
25
30
35
The second largest element is 30
```

Q11: Check whether a number is a perfect square

```
#include <stdio.h>
int main()
{
    int num;
    double sqrtNum;
    int sqrtInt;

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

    if (num < 0)
    {
        printf("Negative numbers cannot be perfect squares.\n");
        return 0;
    }
    sqrtNum = sqrt((double)num);
    sqrtInt = (int)sqrtNum;
    if (sqrtInt * sqrtInt == num) {
        printf("%d is a perfect square.\n", num);
    } else
    {
        printf("%d is not a perfect square.\n", num);
    }
    return 0;
}
```

Q-12:Compute the sum of even elements in an array

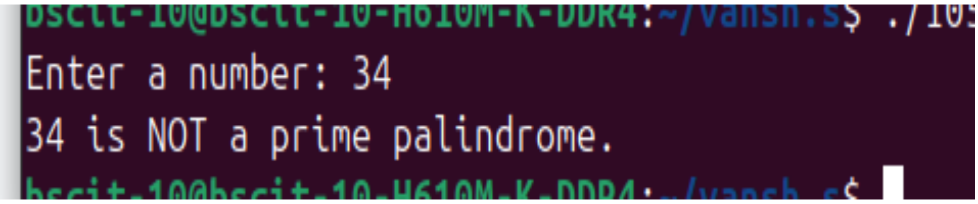
```
#include <stdio.h>
int main()
{
   int arr[100], n, i, sum = 0;
   printf("Enter the number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for(i = 0; i < n; i++) {
      scanf("%d", &arr[i]);
   }
   for(i = 0; i < n; i++)
   {
      if(arr[i] % 2 == 0)
      {
         sum += arr[i];
      }
   }
   printf("Sum of even elements is: %d\n", sum);

    return 0;
}
```



```
Enter the number of elements: 10
Enter 10 elements:
22
32
42
52
62
72
82
92
2
12
Sum of even elements is: 470
```

Q-13: Check whether a number is a prime palindrome

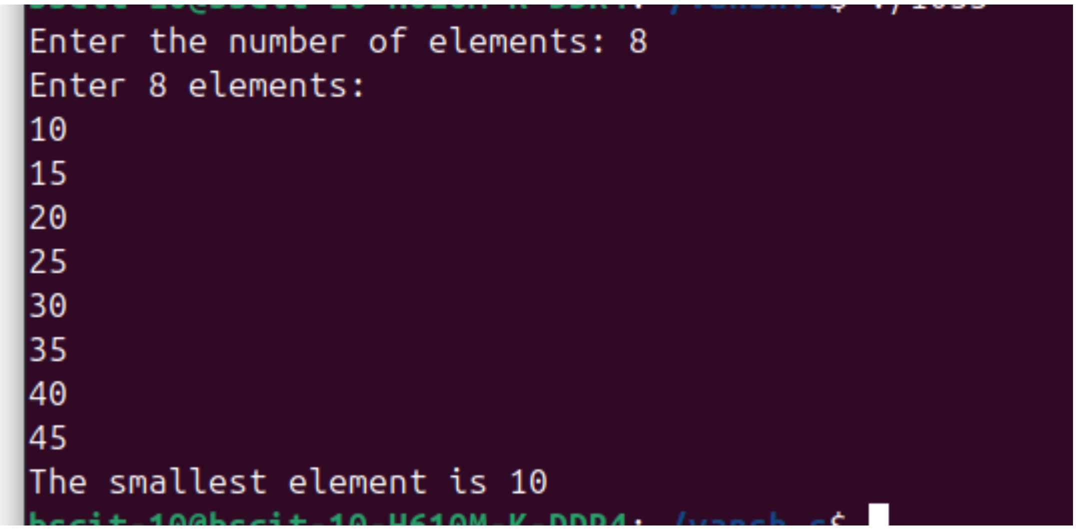
```
#include <stdio.h>
int main()
{
    int num, temp, reversed = 0, remainder;
    int i, isPrime = 1;
   printf("Enter a number: ");
    scanf("%d", &num);
    if (num <= 1) {
        isPrime = 0;
    } else {
        for (i = 2; i <= num / 2; i++) {
            if (num % i == 0) {
                isPrime = 0;
                break;
            }
        }
    }
    temp = num;
    while (temp != 0) {
        remainder = temp % 10;
        reversed = reversed * 10 + remainder;
        temp = temp / 10;
    }

    if (isPrime && (num == reversed))
    {
        printf("%d is a prime palindrome.\n", num);
    } else
    {
        printf("%d is NOT a prime palindrome.\n", num);
    }
    return 0;
}
```



```
bscit-10@bscit-10-H610M-K-DDR4:~/vansh.s$ ./10
Enter a number: 34
34 is NOT a prime palindrome.
bscit-10@bscit-10-H610M-K-DDR4:~/vansh.s$
```

Q14: Find the smallest element in a 1D array

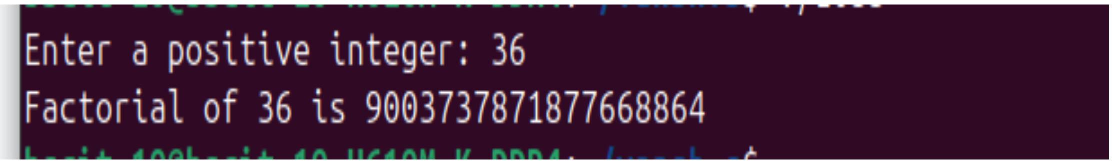
```
#include <stdio.h>
int main()
 {
   int arr[100], n, i, smallest;
   printf("Enter the number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for(i = 0; i < n; i++) {
      scanf("%d", &arr[i]);
   }
   smallest = arr[0];
   for(i = 1; i < n; i++)
   {
      if(arr[i] < smallest)
      {
         smallest = arr[i];
      }
   }
   printf("The smallest element is %d\n", smallest);

   return 0;
}
```



```
Enter the number of elements: 8
Enter 8 elements:
10
15
20
25
30
35
40
45
The smallest element is 10
bscit-10@bscit-10-H610M-K-DDR4:~/vansh_c$
```

Q15: Compute factorial of a number

```
#include <stdio.h>
int main()
{
    int num, i;
    unsigned long long factorial = 1;
    printf("Enter a positive integer: ");
    scanf("%d", &num);
    if (num < 0)
    {
        printf("Factorial is not defined for negative numbers.\n");
    } else
    {
        for(i = 1; i <= num; ++i)
        {
            factorial *= i;
        }
        printf("Factorial of %d is %llu\n", num, factorial);
    }

    return 0;
}
```



```
Enter a positive integer: 36
Factorial of 36 is 9003737871877668864
```