1.Write a program to check if a number is positive, negative, or zero.

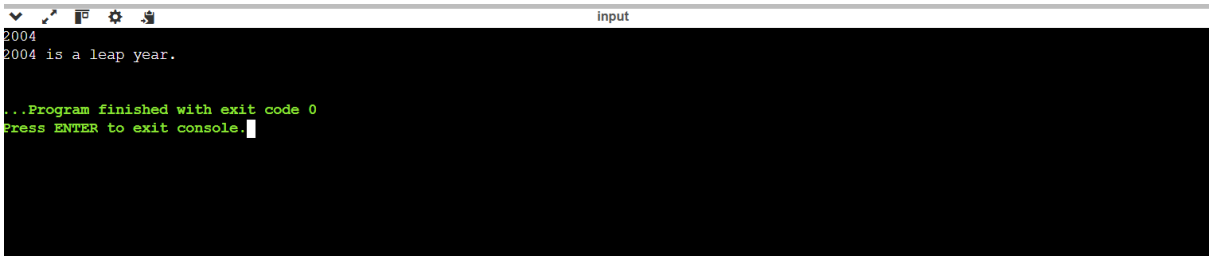
```
#include <stdio.h>

int main() {

int number;
   scanf("%d", &number);

if (number > 0) {

printf("The number is positive.\n");

} else if (number < 0) {

printf("The number is negative.\n");

} else {

printf("The number is zero.\n");

}

return 0;

}
```

2. Write a program to find the largest among three numbers.

```
#include <stdio.h>

int main() {
int num1, num2, num3;

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

if (num1 >= num2 && num1 >= num3) {
printf("The largest number is: %d\n", num1);
} else if (num2 >= num1 && num2 >= num3) {
printf("The largest number is: %d\n", num2);
} else {
printf("The largest number is: %d\n", num3);
}

return 0;
}
```

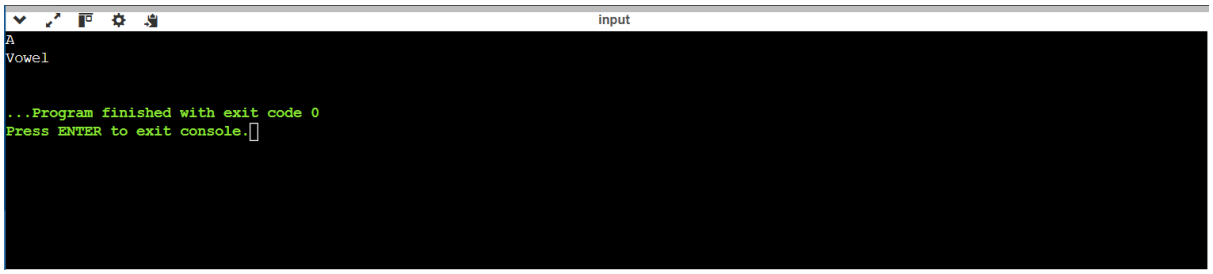
3. Write a program to check if a year is a leap year.

```
#include <stdio.h>
int main() {
   int year;
  scanf("%d", &year);
   if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {
      printf("%d is a leap year.\n", year);
   } else {
      printf("%d is not a leap year.\n", year);
   }
   return 0;
}
```



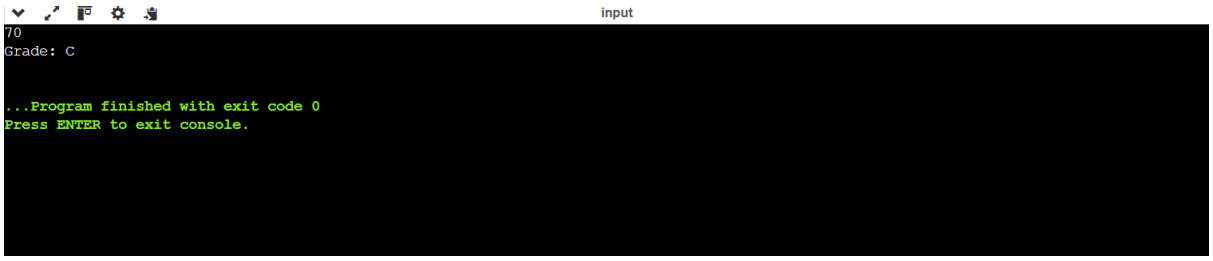
4. Write a program to check whether a character is a vowel or consonant

```
#include <stdio.h>
int main() {
   char ch;
   scanf(" %c", &ch);
   if (ch=='a'||ch=='e'||ch=='i'||ch=='o'||ch=='u'||ch=='A'||ch=='E'||ch=='I'||ch=='O'||ch=='U')
      printf("Vowel\n");
   else
      printf("Consonant\n");
   return 0;
}
```



5. Assign grades based on marks

```
#include <stdio.h>


int main() {
   int marks;
   scanf("%d", &marks);


   if (marks >= 90)
      printf("Grade: A\n");
   else if (marks >= 80)
      printf("Grade: B\n");
   else if (marks >= 70)
      printf("Grade: C\n");
   else if (marks >= 60)
      printf("Grade: D\n");
   else
      printf("Grade: F\n");
   return 0;
}
```



6. Check whether a number is divisible by 5 and 11

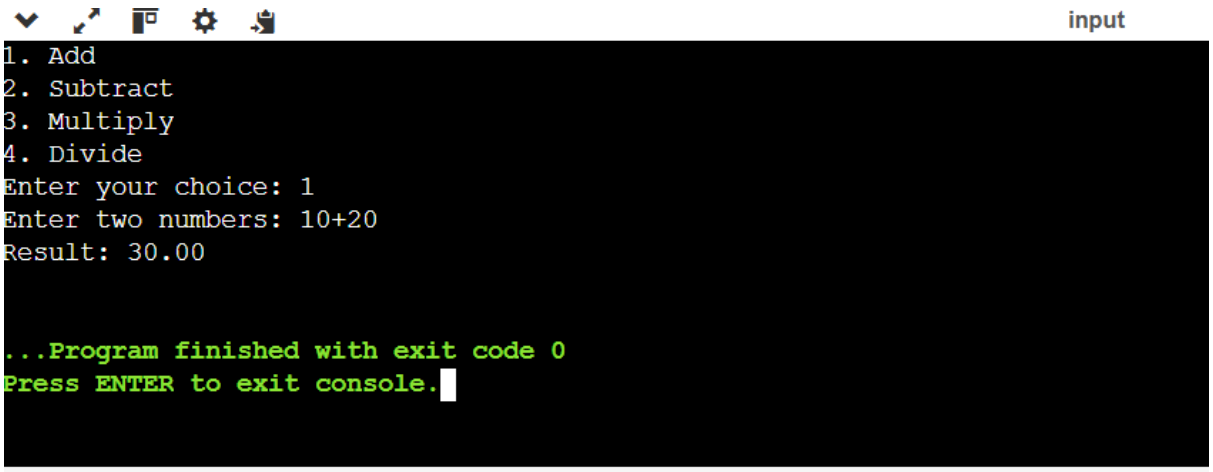
```
#include <stdio.h>

int main() {
   int num;
   scanf("%d", &num);

   if (num % 5 == 0 && num % 11 == 0)
      printf("Divisible by 5 and 11\n");
   else
      printf("Not divisible by 5 and 11\n");

   return 0;
}
```

7. Write a program to find the absolute value of a number.

```
#include <stdio.h>

int main() {
   int num;
   scanf("%d", &num);
   if (num < 0)
      num = -num;
   printf("Absolute value: %d\n", num);
   return 0;
}
```

8. Write a menu-driven program to perform +, -, *, / operations.

```
#include <stdio.h>
int main() {
   int choice;
   float a, b, result;
   printf("1. Add\n2. Subtract\n3. Multiply\n4. Divide\nEnter your choice: ");
   scanf("%d", &choice);
   printf("Enter two numbers: ");
   scanf("%f %f", &a, &b);
   switch (choice) {
      case 1: result = a + b;
            printf("Result: %.2f\n", result);
            break;
      case 2: result = a - b;
            printf("Result: %.2f\n", result);
            break;
      case 3: result = a * b;
            printf("Result: %.2f\n", result);
            break;
      case 4: if (b != 0)
               result = a / b;
            else {
               printf("Cannot divide by zero\n");
               return 1;
            }
            printf("Result: %.2f\n", result);
            break;
      default: printf("Invalid choice\n");
   }
   return 0;
}
```



9. Write a program to find roots of a quadratic equation.

```
#include <stdio.h>

#include <math.h>

int main() {

   float a, b, c, d;

   printf("Enter a b c: ");

   scanf("%f%f%f", &a, &b, &c);

   d = b*b - 4*a*c;

   if (d > 0)

      printf("Roots: %.2f and %.2f\n", (-b+sqrt(d))/(2*a), (-b-sqrt(d))/(2*a));

   else if (d == 0)

      printf("Root: %.2f\n", -b/(2*a));

   else

      printf("Complex roots\n");

   return 0;

}
```

10. Find the number of digits in a number

```
#include <stdio.h>
int main() {
   int num, count = 0;
   printf("Enter a number: ");
   scanf("%d", &num);
   if (num == 0)
      count = 1;
   else {
      while (num != 0) {
         num /= 10;
         count++;
      }
   }
   printf("Number of digits: %d\n", count);
   return 0;
}
```