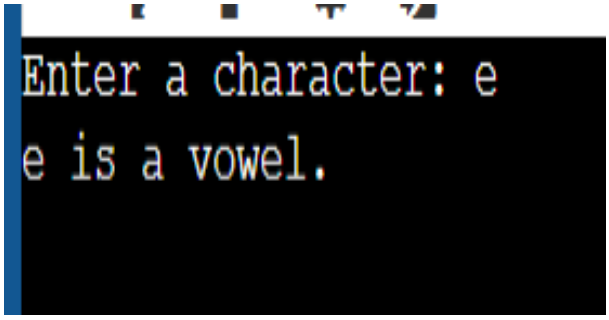
Q-1 . Create a C program to check if a character entered by the user is a yowel or consonant using a switch statement

Code:-

```
#include <stdio.h>

int main() {
   char ch;
   printf("Enter a character: ");
   scanf(" %c", &ch);

   switch(ch) {
      case 'a': case 'e': case 'i': case 'o': case 'u':
      case 'A': case 'E': case 'I': case 'O': case 'U':
         printf("%c is a vowel.\n", ch);
         break;
      default:
         if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
            printf("%c is a consonant.\n", ch);
         else
            printf("Not an alphabet.\n");
   }
   return 0;
}
```

Output:-

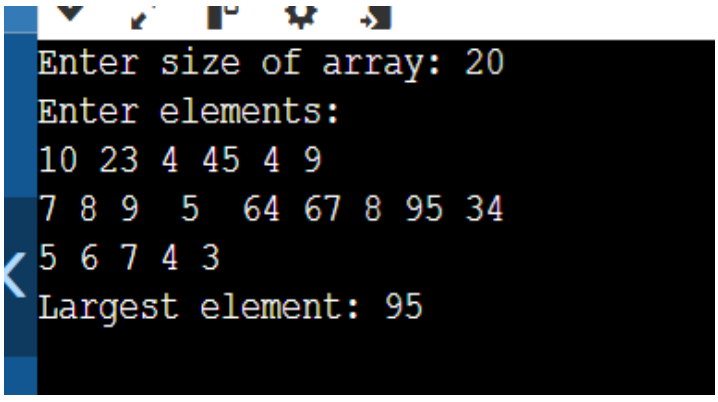


Q-2 . Create a C program to find the largest element in an ID array.

Code:-

```
#include <stdio.h>

int main() {
   int arr[100], n, i, max;
   printf("Enter size of array: ");
   scanf("%d", &n);

   printf("Enter elements:\n");
   for(i = 0; i < n; i++) {
      scanf("%d", &arr[i]);
   }

   max = arr[0];
   for(i = 1; i < n; i++) {
      if(arr[i] > max)
         max = arr[i];
   }

   printf("Largest element: %d\n", max);
   return 0;
}
```

Output:-

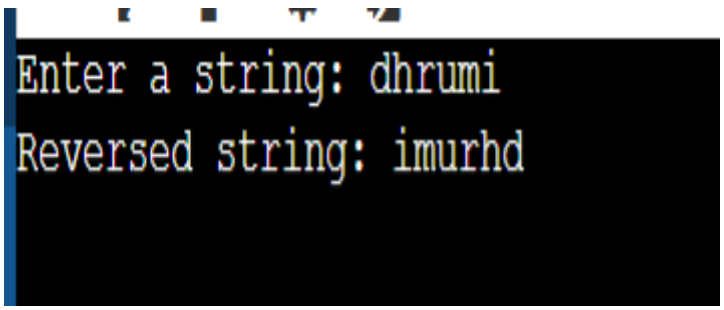


Q-3 . Write a C program that defines a function to reverse a string without using any library functions.

Code:-

```
#include <stdio.h>

void reverse(char str[]) {
   int i, len = 0;
   while(str[len] != '\0') {
      len++;
   }

   printf("Reversed string: ");
   for(i = len- 1; i >= 0; i--) {
      printf("%c", str[i]);
   }
   printf("\n");
}

int main() {
   char str[100];
   printf("Enter a string: ");
   scanf("%s", str);

   reverse(str);
   return 0;
}
```

Output:-

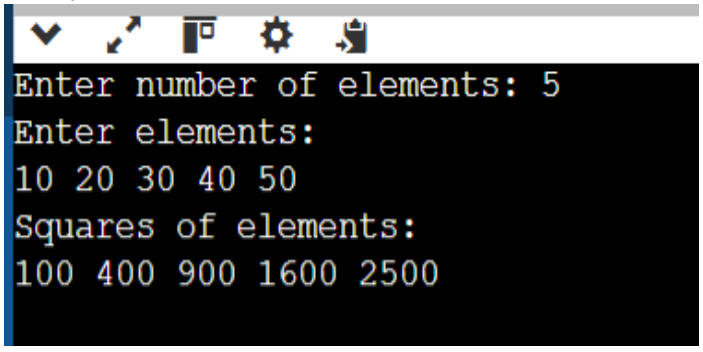


Q-4. Write a C program to find square of each elements of an ID array using Pointer.

Code :-

```
#include <stdio.h>

int main() {
   int arr[100], *ptr, n, i;

   printf("Enter number of elements: ");
   scanf("%d", &n);

   printf("Enter elements:\n");
   for(i = 0; i < n; i++) {
      scanf("%d", &arr[i]);
   }

   ptr = arr;
   printf("Squares of elements:\n");
   for(i = 0; i < n; i++) {
      printf("%d ", (*(ptr + i)) * (*(ptr + i)));
   }
   printf("\n");

   return 0;
}
```

Output :-



Q-5 . . Print a below pattern using nested for loop in C language:

1
4 4
9 9 9
16 16 16 16
25 25 25 25 25

Code :-

```
#include <stdio.h>

int main() {
   int i, j;
   for(i = 1; i <= 5; i++) {
      for(j = 1; j <= i; j++) {
         printf("%d ", i*i);
      }
      printf("\n");
   }
   return 0;
}
```

Output :-