

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

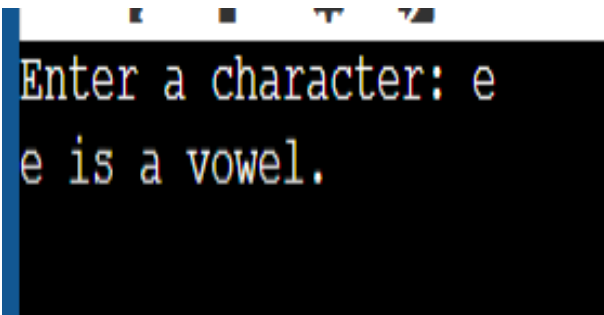
Code:-

```
#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:-

A screenshot of a terminal window with a black background and yellow text. The text shows the prompt 'Enter a character: e' followed by the output 'e is a vowel.' on the next line. The terminal window has a blue title bar at the top.

```
Enter a character: e
e is a vowel.
```

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

Code:-

```
#include <stdio.h>

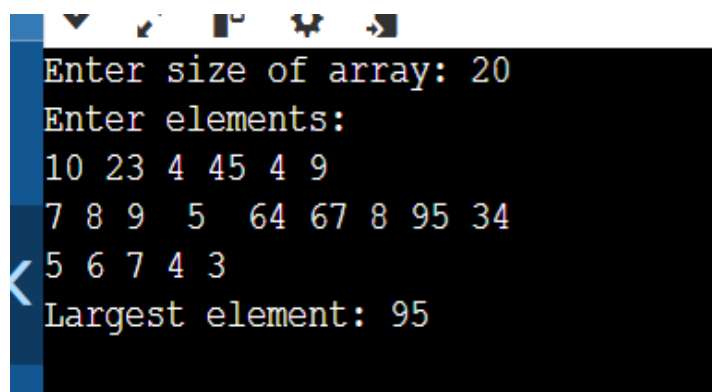
int main() {
    int arr[100], n, i, max;
    printf("Enter size of array: ");
    scanf("%d", &n);

    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:-



```
Enter size of array: 20
Enter elements:
10 23 4 45 4 9
7 8 9 5 64 67 8 95 34
5 6 7 4 3
Largest element: 95
```

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

Code:-

```
#include <stdio.h>

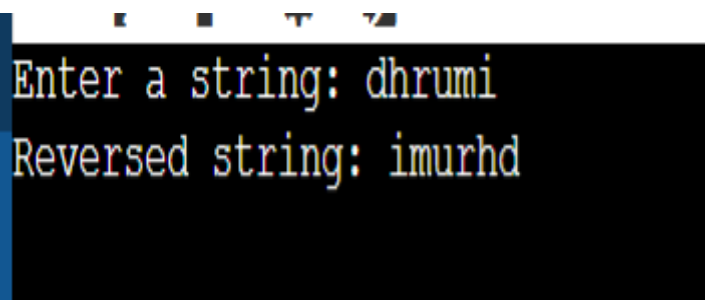
void reverse(char str[]) {
    int i, len = 0;
    while(str[len] != '\0') {
        len++;
    }

    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:-



```
Enter a string: dhrumi
Reversed string: imurhd
```

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;

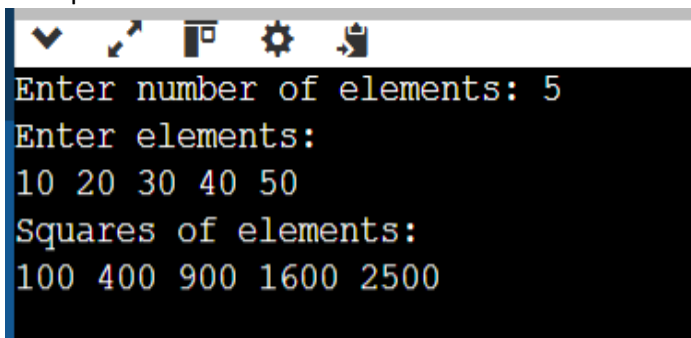
    printf("Enter number of elements: ");
    scanf("%d", &n);

    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 :-



```
Enter number of elements: 5
Enter elements:
10 20 30 40 50
Squares of elements:
100 400 900 1600 2500
```

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

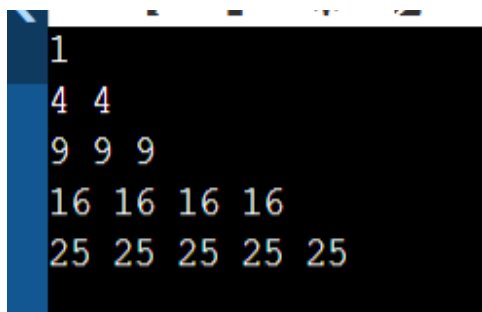
```
1
4 4
9 9 9
16 16 16 16
25 25 25 25 25
```

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 :-



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