QUIZ GAME

A Mini Project

Academic Year: 2021 - 22 EVEN SEMESTER

Department with Specialization: B. Tech – Computer Science and Engineering with specialization in Cloud Computing

Semester: II

Course Code: 18CSS101J

Course Title: Programming for Problem Solving

Submitted by

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SRM INSTITUTE OF SCIENCE & TECHNOLOGY
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AIM

The aim of this project is to create a program using C language, that asks questions based on general knowledge to the user and thus records the number of questions that the user has answered correctly.

ABSTRACT

The concept of Quizzes is currently very popular among educated circles as well as in entertainment shows. Quizzes contribute to the growth of knowledge of an individual and they are a popular source of entertainment. Though the Quiz can be conducted manually, it often needs elaborate preparations. The Quiz game is designed to increase learning of players by playing a multiple-choice Quiz contest on various topics which is interactive, user friendly and fun to play.

This program in C language focuses on creating interactive Quizzes possibly with a set of questions. The program utilizes some of the important concepts in C. The final output is envisioned to be a user-friendly interactive Quiz with which the user can gain significant knowledge and get entertainment with value-addition.

ALGORITHM

Step 1: Start.

Step 2: Declare 10 different character arrays and initialize them with different questions and their options. Declare a character array(a) of size 10 which stores their respective answers. Declare a score variable(score) and initialize it as 0. Declare a character array(ans) of length 2 to get the user input for the question. Declare a character array(c1) of size 10 to store the user input. Declare a variable(c) which will store the relative memory position of the declared array in which the user input is to be stored and initialize it as 0.

Step 3: Define the first function(f1) which asks the user if they want to start the Quiz or not. Define the second function(f2) which displays the questions, choices and takes and stores the user input and calculates the score depending upon the user input. Define the third function(f3) which display the questions, choices, user input and correct answer and whether the user choice was correct or not and the final score. Define the fourth function(f4) to display the exit message and stop and exit the program. Define the main function to call all of the four functions as and when needed.

Step 4: Call f1 from main function.

Step 5: Depending upon the user input to continue or stop the program, pass control to main function or f4. If the user wants to continue with the program, control is passed back to main function; if the user doesn't want to continue, display "you chose to exit the Quiz game", transfer control to f4 and skip to step 8.

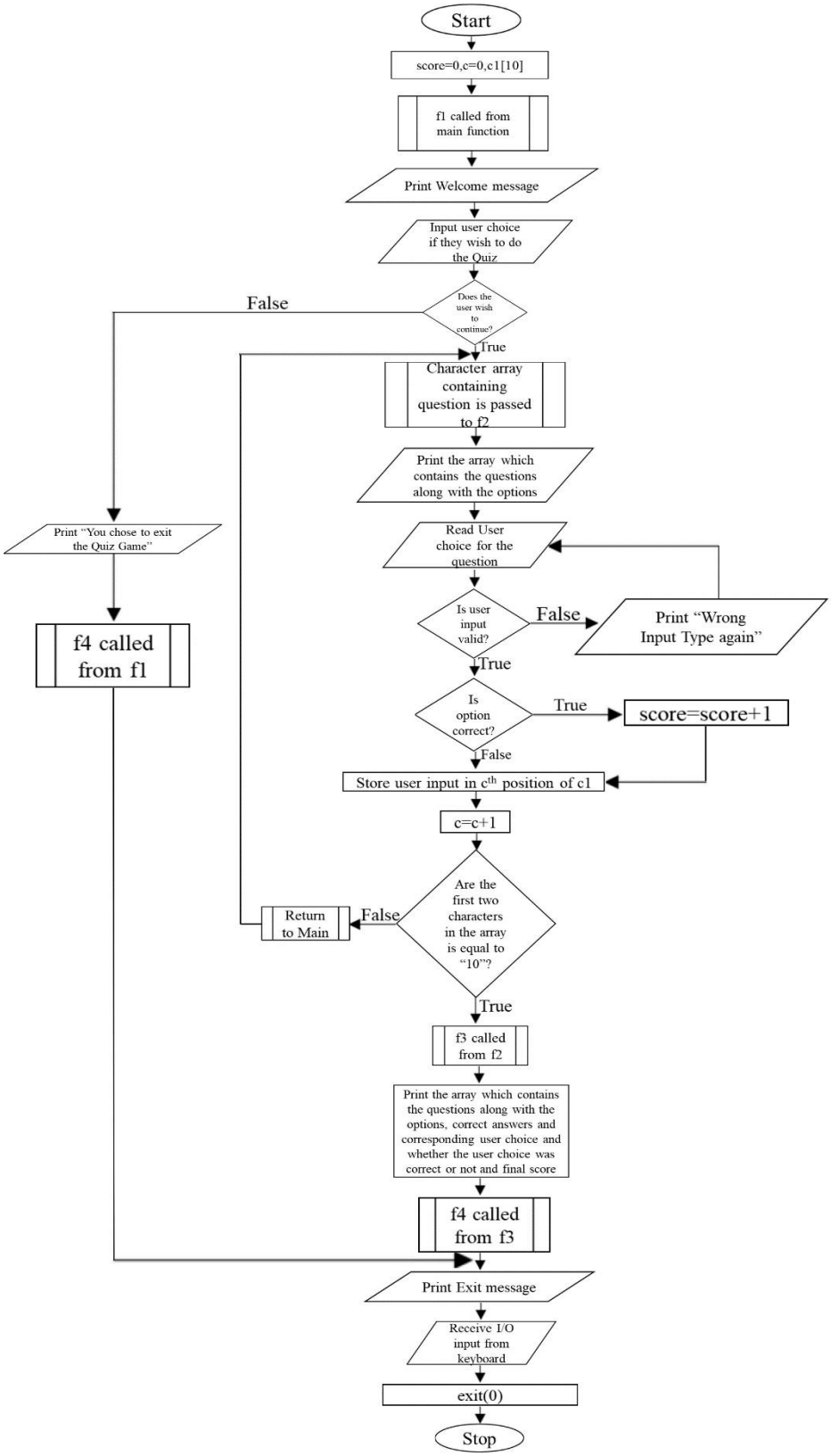
Step 6: The ten character arrays containing the questions are passed to f2 individually from main function. f2 displays the questions, choices and takes and stores the user input in the c^{th} position of the array c1 and increment the value of c for every successful input and increment the value of score by 1 for every correct choice. Once the first two characters of the array containing the question is equal to 10, the control will be passed to f3 after the usual function of f2 instead of reverting it to the main function.

Step 7: f3 will display the questions, choices, user input and correct answer and whether the user choice for the question was correct or not and the final score and pass the control to f4.

Step 8: f4 will display the exit message and wait for a standard I/O stream input from the keyboard to execute the kill program statement.

Step 9: Stop.

FLOWCHART


Start
score=0,c=0,c1[10]
f1 called from main function
Print Welcome message
Input user choice if they wish to do the Quiz
Does the user wish to continue?
False
True
Character array containing question is passed to f2
Print the array which contains the questions along with the options
Read User choice for the question
Is user input valid?
False
Print "Wrong Input Type again"
True
Is option correct?
True
score=score+1
False
Store user input in c^th position of c1
c=c+1
Are the first two characters in the array is equal to "10"?
False
Return to Main
True
f3 called from f2
Print the array which contains the questions along with the options, correct answers and corresponding user choice and whether the user choice was correct or not and final score
f4 called from f3
Print "You chose to exit the Quiz Game"
f4 called from f1
Print Exit message
Receive I/O input from keyboard
exit(0)
Stop

SOURCE CODE

```
#include <stdio.h>

#include <string.h>

#include <stdlib.h>

#include <conio.h>

#include <ctype.h>


char q1[]="1. Which among the following was the first Indian woman who went into space?\nA. Kalpana Chawla\nB. Sunita Williams\nC. Koneru Humpy\nD. None of the above\n";

char q2[]="2. Who was the first Indian to go to space?\nA. Vikram Ambalal\nB. Ravish Malhotra\nC. Rakesh Sharma\nD. Nagapathi Bhat\n";

char q3[]="3. Who among the following was the first man to climb Mount Everest without supplemental oxygen?\nA. Junko Tabei\nB. Reinhold Messner\nC. Duncan Chessell\nD. Phu Dorji\n";

char q4[]="4. Who built the Jama Masjid?\nA. Jahangir\nB. Akbar\nC. Imam Bukhari\nD. Shah Jahan\n";

char q5[]="5. Who wrote the Indian National Anthem?\nA. Bakim Chandra Chatterji\nB. Rabindranath Tagore\nC. Swami Vivekanand\nD. None of the above\n"; char q6[]="6. Who was the first Indian Scientist to win a Nobel Prize?\nA.
C.V Raman\nB. Amartya Sen\nC. Hargobind Khorana\nD. Subramanian Chrandrashekar\n";

char q7[]="7. Who is the first Indian to win a Nobel Prize?\nA. Rabindranath Tagore\nB. CV Raman\nC. Mother Theresa\nD. Hargobind Khorana\n";
```

```
char q8[]="8. Who was the first Indian woman to win the Miss World Title?\nA. Aishwarya Rai\nB. Sushmita Sen\nC. Reita Faria\nD. Diya Mirza\n";

char q9[]="9. Who was the first President of India?\nA. Abdul Kalam\nB. Lal Bahadur Shastri\nC. Dr. Rajendra Prasad\nD. Zakir Hussain\n";

char q10[]="10. Who was the first Indian to win the Booker Prize?\nA. Dhan Gopal Mukerji\nB. Nirad C. Chaudhuri\nC. Arundhati Roy\nD. Aravind Adiga\n";

char a[]="ACDDBAACCC";

char ans[2],c1[10]; int

score=0,c=0;


void f4();

void f1() {

char s[2];

   printf("\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
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d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n");
printf("\t\t\t\t\t\tWELCOME TO THE QUIZ GAME\n");

   printf("\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
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d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
```

```
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n\n");
printf("\t\t\t\t\t\tEnter \"S\" to Start.\n");     printf("\t\t\t\t\t\tEnter any other
key to exit.\n");     scanf("%s",s);
   if((s[0]=='s' || s[0]=='S')&&s[1]=='\0')

return;     else

   {

       printf("\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\
xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\
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xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n");
printf("\t\t\t\t\t       You chose to exit the Quiz Game\n");

       printf("\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\
xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\
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xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\
xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n\n");

       f4();

   }

}


void f3(); void

f2(char *q)
```

```
{
   printf("\n");
puts(q);     while
(1)
   {
      printf("Please enter your choice: ");
scanf("%s",&ans);
      if((tolower(ans[0])=='a'||tolower(ans[0])=='b'||tolower(ans[0])=='c'||tolo
wer(ans[0])=='d')&&ans[1]=='\0')
      {
         if (toupper(ans[0])==a[c])
         {
score++;
         }
         c1[c]=ans[0];
c++;

         break;
      }
else
      {
         printf("Wrong Input\n");
printf("Try again\n");
      }
```

```
    }
    if(q[0]=='1'&&q[1]=='0')
    {
f3();    }
return;
}


void f3() {
    system("cls");
    printf("\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n");
printf("\t\t\tNow displaying all the questions with their respective answers
and your choice.\n");
    printf("\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
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d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n\n");
printf("\n%sAnswer: %c\nYour Choice: %c\n",q1,a[0],c1[0]);
if(a[0]==toupper(c1[0]))        printf("Correct!\n\n");    else
```

```
        printf("Incorrect!\n\n");
    printf("%sAnswer: %c\nYour Choice: %c\n",q2,a[1],c1[1]);
if(a[1]==toupper(c1[1]))        printf("Correct!\n\n");     else
        printf("Incorrect!\n\n");
    printf("%sAnswer: %c\nYour Choice: %c\n",q3,a[2],c1[2]);
if(a[2]==toupper(c1[2]))        printf("Correct!\n\n");

    else
        printf("Incorrect!\n\n");
    printf("%sAnswer: %c\nYour Choice: %c\n",q4,a[3],c1[3]);
if(a[3]==toupper(c1[3]))        printf("Correct!\n\n");     else
        printf("Incorrect!\n\n");
    printf("%sAnswer: %c\nYour Choice: %c\n",q5,a[4],c1[4]);
if(a[4]==toupper(c1[4]))        printf("Correct!\n\n");     else
        printf("Incorrect!\n\n");
    printf("%sAnswer: %c\nYour Choice: %c\n",q6,a[5],c1[5]);
if(a[5]==toupper(c1[5]))        printf("Correct!\n\n");     else
        printf("Incorrect!\n\n");
    printf("%sAnswer: %c\nYour Choice: %c\n",q7,a[6],c1[6]);
if(a[6]==toupper(c1[6]))        printf("Correct!\n\n");     else
       printf("Incorrect!\n\n");
    printf("%sAnswer: %c\nYour Choice: %c\n",q8,a[7],c1[7]);
```

```
   if(a[7]==toupper(c1[7]))
printf("Correct!\n\n");    else
      printf("Incorrect!\n\n");
   printf("%sAnswer: %c\nYour Choice: %c\n",q9,a[8],c1[8]);
if(a[8]==toupper(c1[8]))        printf("Correct!\n\n");    else
      printf("Incorrect!\n\n");
   printf("%sAnswer: %c\nYour Choice: %c\n",q10,a[9],c1[9]);
if(a[9]==toupper(c1[9]))        printf("Correct!\n\n");    else
      printf("Incorrect!\n\n");
   printf("\n\t\t\t\t\t\t    Total score: %d\n",score);
f4();
}


void f4()
{ printf("\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n");
printf("\t\t\t\t\t\t\tTHANK YOU\n");    printf("\t\t\t\t\t\t    HAVE A NICE
DAY\n");
   printf("\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
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```
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xc
d\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\xcd\n\n");
printf("Press any key to exit");    getch();    exit(0);
}

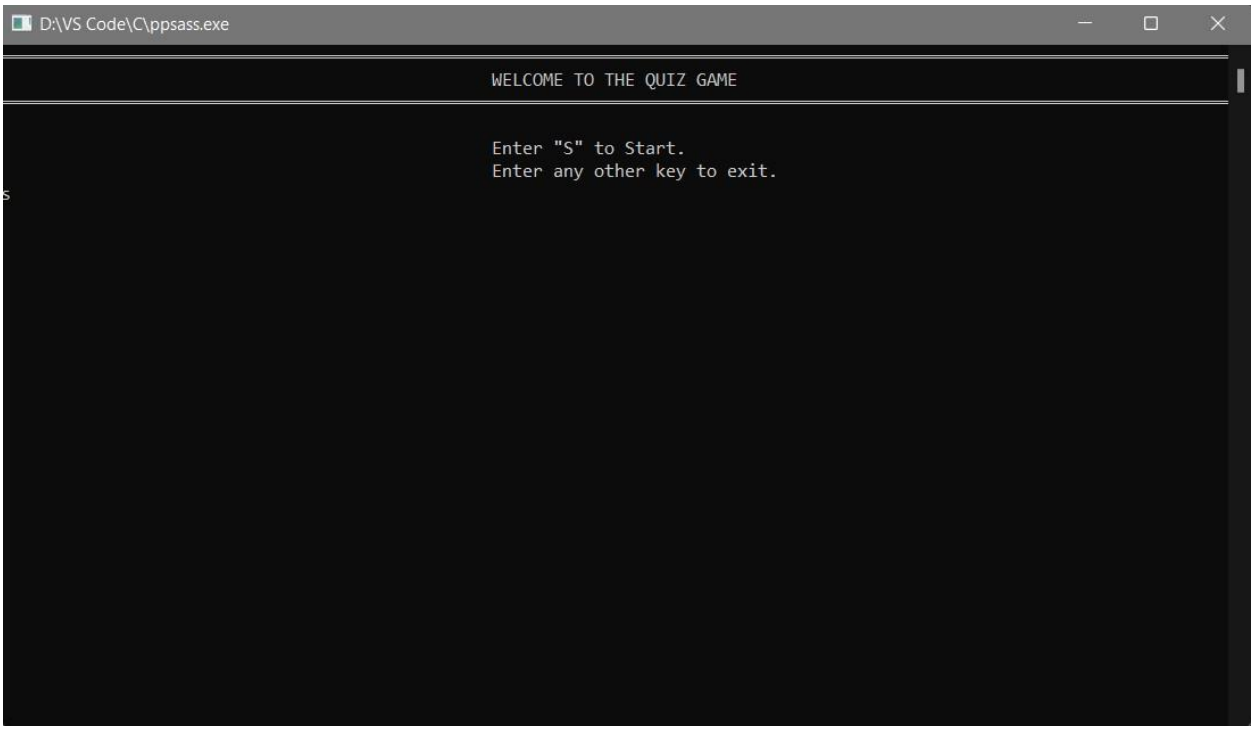

void main()
{
    system("cls");
f1();
   system("cls");
    f2(q1);
    system("cls");
f2(q2);
system("cls");
f2(q3);
system("cls");
f2(q4);
system("cls");
f2(q5);
system("cls");
f2(q6);
```

```
system("cls");
f2(q7);
system("cls");
f2(q8);
system("cls");
f2(q9);
system("cls");
f2(q10); }
```

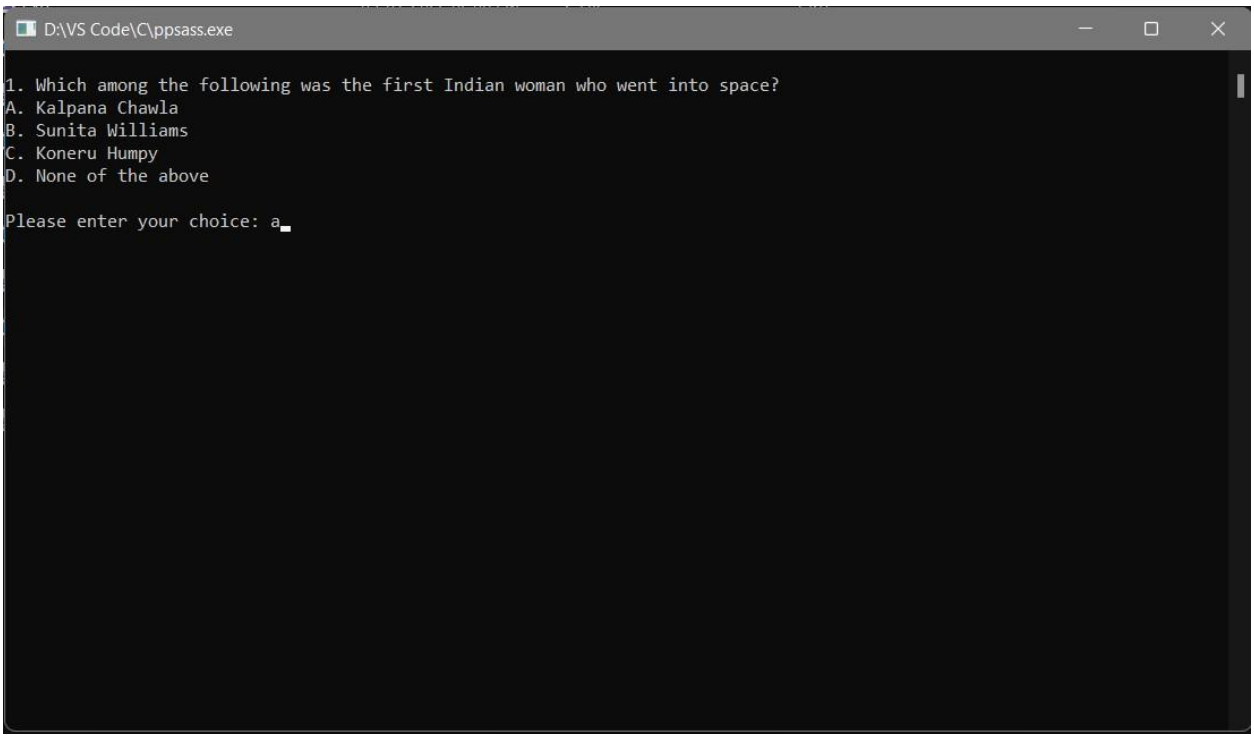
SCREENSHOT:

: Start screen, along with the welcome message

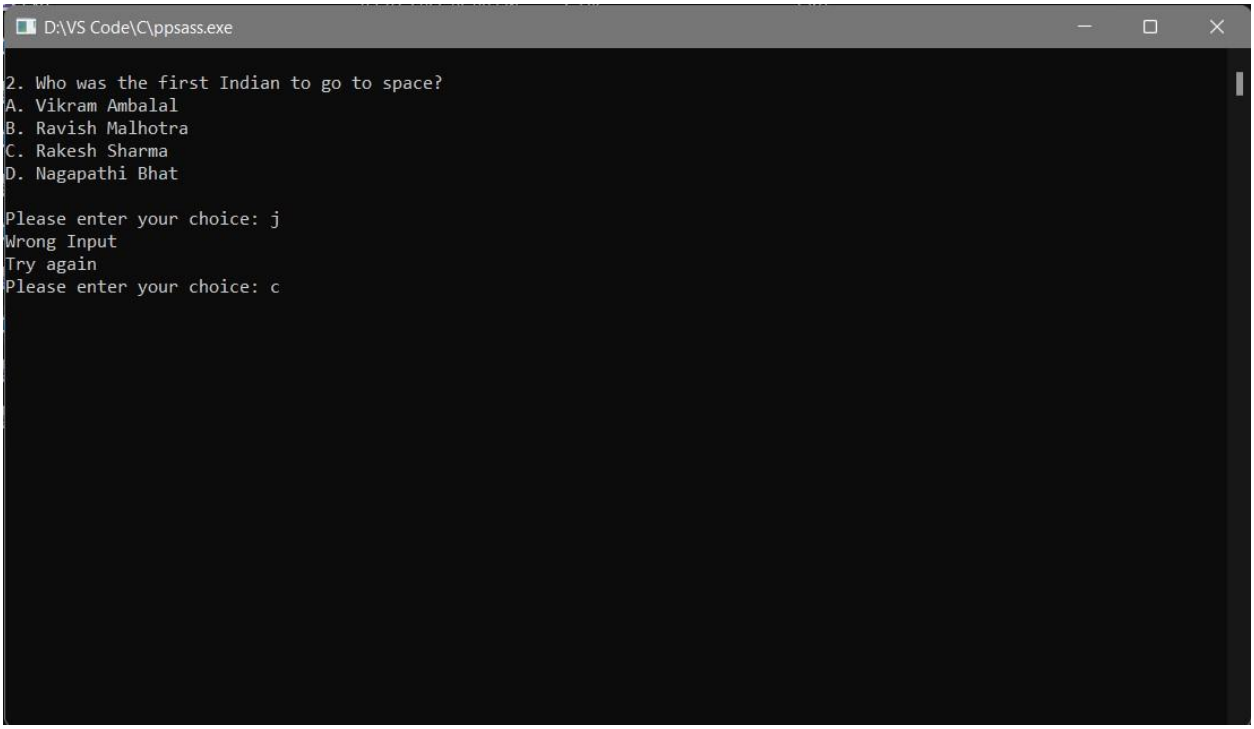
: The user has chosen to not continue with the Quiz program.



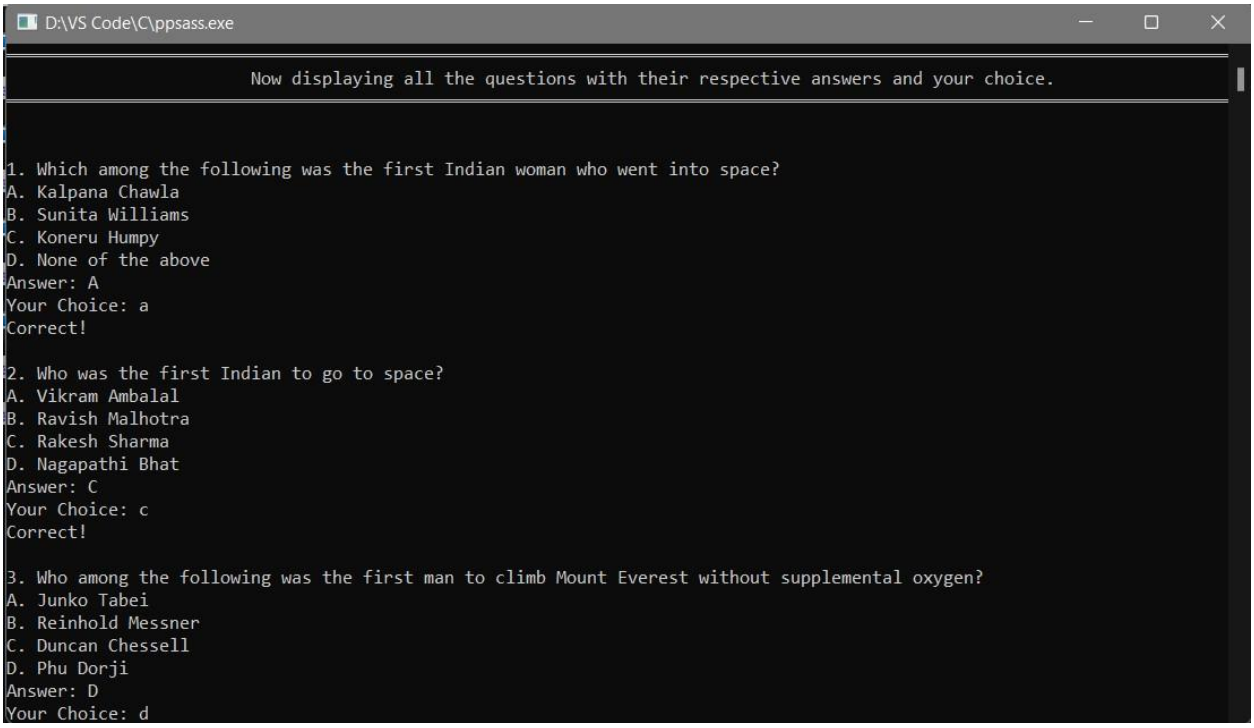
: The user is about to enter his choice to start the Quiz program.



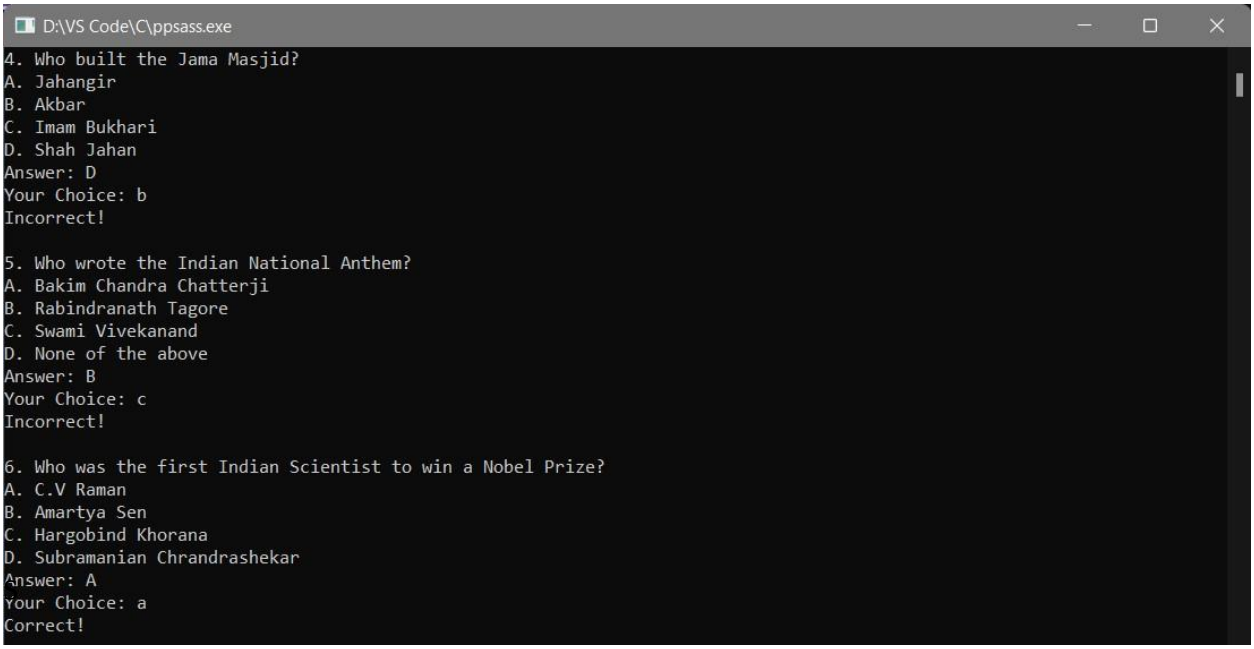
: The user has chosen to continue with the Quiz program and is about to enter their choice preference on the first question posed to them.



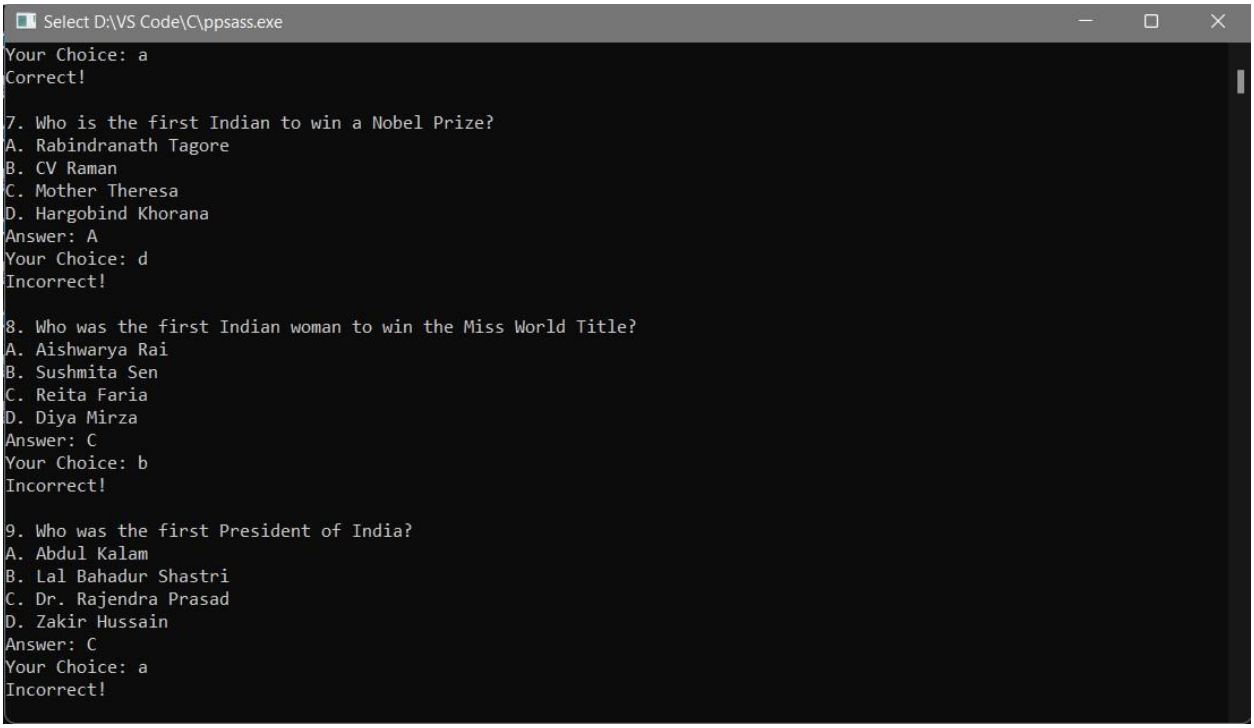
: The user has entered an invalid option in response to a Quiz question and is requested to try again with a valid input.



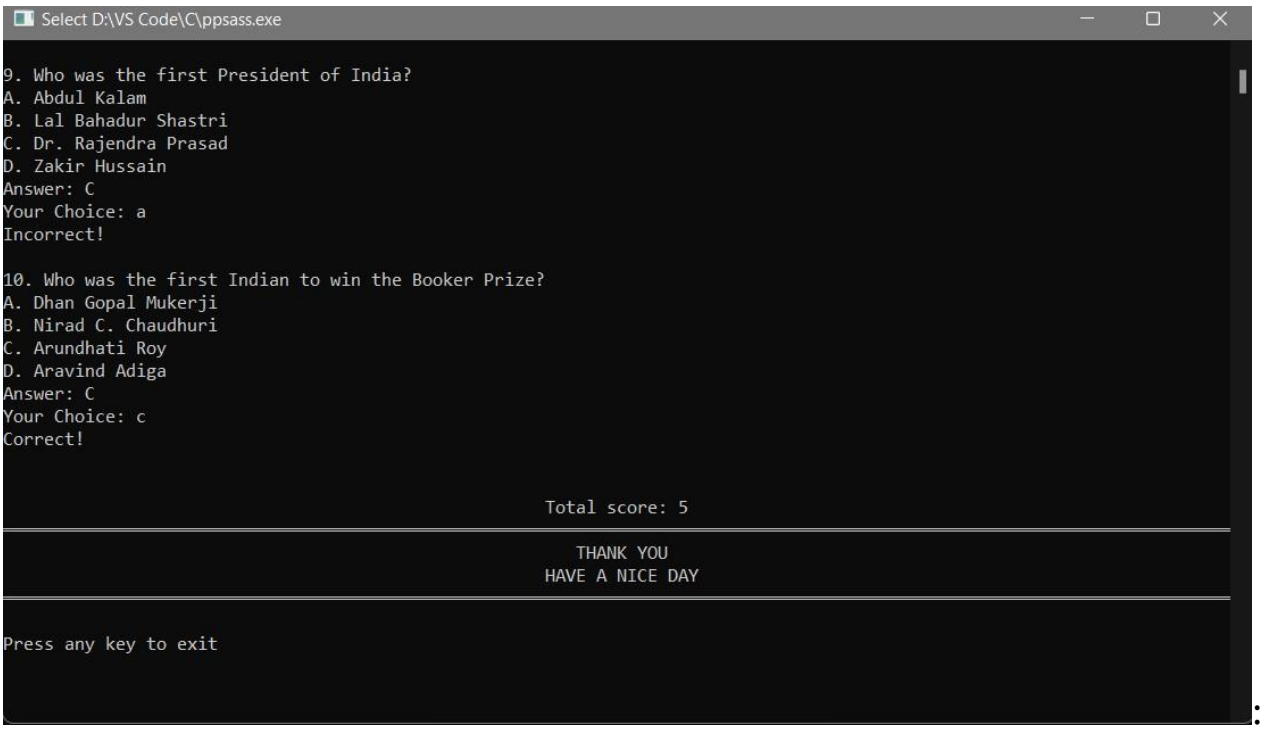
: The user has given their preference choices in response to the ten Quiz questions posed to them and at the end of it, they are shown the questions, their respective answers, their corresponding choices and whether their choice was correct or not.



: Displaying the questions, respective answers, corresponding user choices and whether their choice was correct or not.



: Displaying the questions, respective answers, corresponding user choices and whether their choice was correct or not.


:

After the display of questions, answers, choices and the correctness of choices, the total score is displayed along with the exit message.

RESULT

The resultant source code yields result as expected during runtime from the developers and end users alike.

CONCLUSION

Utilising the concepts of programming embedded in C language, the two developers have tried their best to create a simple and optimized program that does the work of a Quizzer in real life, with a user-friendly terminal for the executable file of the source code. It has also exposed the developers to the intricate technicalities when working with older generation high level languages, in this case C, which is a 3rd generation High Level Language as opposed to modern 4th generation High Level languages like Python, Ruby etc., which has made the two developers appreciate the older generation languages which pioneered the programming scenarios among the general masses while also laying the foundation for the latest generation languages.