

PROJECT

**CRICKET SCORE & RUNS CALCULATOR**

Course Code: SE121

Course Title: Structured Programming

**SUBMITTED BY**

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**Description of the project:**

This project is about cricket match. Using this project one can control a cricket match easily. At first, user will input how many over will be played in this cricket match per side. Suppose, if it’s a T20 match then the input will be 20, if it is an ODI match then input will be 50.

After that program will ask ball by ball run that scored by the batsman from the user. Suppose, in the first ball (Over 0.1) batsman hits a 4, then the input for Over 0.1 will be 4. If batsman score 1 run then input should be 1. For a wide ball, wd or WD should be the input and it will not be counted as a right ball and batting team will get an extra run free. If a batsman gets out then w or W will be the input. For a no ball, nb or NB will be the input and obviously batsman will get a free hit in the next ball. After finishing an over, total runs and wicket fall, last over runs, run rate will be printed. It will go like this till the total over that input at the very first time.

Target will be displayed for the bowling team after completing all overs or falling all wickets of batting team.

This is the short description of my project. I have broken this problem in 3 versions. Char array, nested loop, string, condition, concept of flag variable and many things are used to solve this problem. The code of those version with short description and output screen shot are given below. My code is little bit big so, besides, I have given code sharing site links for your convenience.

**VERSION 1**

I do this without using loop. In this version of project, I have written a code for taking runs of a single over only. I take a char array because NB, 2NB, WD, 4WD, W etc can be input besides 1, 2, 4, 6.

**Code**: ( <https://paste.ubuntu.com/p/DVfqsZFSdC/> )

#include<stdio.h>

#include<string.h>

int main(){

int over\_runs=0, wickets\_fall=0;

char individual\_runs[5]; // an char array for taking ball by ball runs

//now take 6 balls (an over) runs

//for ball 1

scanf("%s", individual\_runs);

if(strcmp(individual\_runs, "1")==0){

//1 run is scored found

over\_runs++;

}

else if(strcmp(individual\_runs, "2")==0){

//double run is taken by batsman

over\_runs=over\_runs+2;

}

else if(strcmp(individual\_runs, "3")==0){

//3 runs scored

over\_runs=over\_runs+3;

}

else if(strcmp(individual\_runs, "4")==0){

//batsman hits a four

over\_runs=over\_runs+4;

}

else if(strcmp(individual\_runs, "5")==0){

over\_runs=over\_runs+5;

}

else if(strcmp(individual\_runs, "6")==0){

//batsman hits a six

over\_runs=over\_runs+6;

}

else if(strcmp(individual\_runs, "w")==0){

//batsman is out

wickets\_fall=wickets\_fall+1;

}

//for ball 2

scanf("%s", individual\_runs);

if(strcmp(individual\_runs, "1")==0){

//1 run is scored found

over\_runs++;

}

else if(strcmp(individual\_runs, "2")==0){

//double run is taken by batsman

over\_runs=over\_runs+2;

}

else if(strcmp(individual\_runs, "3")==0){

//3 runs scored

over\_runs=over\_runs+3;

}

else if(strcmp(individual\_runs, "4")==0){

//batsman hits a four

over\_runs=over\_runs+4;

}

else if(strcmp(individual\_runs, "5")==0){

over\_runs=over\_runs+5;

}

else if(strcmp(individual\_runs, "6")==0){

//batsman hits a six

over\_runs=over\_runs+6;

}

else if(strcmp(individual\_runs, "w")==0){

//batsman is out

wickets\_fall=wickets\_fall+1;

}

//for ball 3

scanf("%s", individual\_runs);

if(strcmp(individual\_runs, "1")==0){

//1 run is scored found

over\_runs++;

}

else if(strcmp(individual\_runs, "2")==0){

//double run is taken by batsman

over\_runs=over\_runs+2;

}

else if(strcmp(individual\_runs, "3")==0){

//3 runs scored

over\_runs=over\_runs+3;

}

else if(strcmp(individual\_runs, "4")==0){

//batsman hits a four

over\_runs=over\_runs+4;

}

else if(strcmp(individual\_runs, "5")==0){

over\_runs=over\_runs+5;

}

else if(strcmp(individual\_runs, "6")==0){

//batsman hits a six

over\_runs=over\_runs+6;

}

else if(strcmp(individual\_runs, "w")==0){

//batsman is out

wickets\_fall=wickets\_fall+1;

}

//for ball 4

scanf("%s", individual\_runs);

if(strcmp(individual\_runs, "1")==0){

//1 run is scored found

over\_runs++;

}

else if(strcmp(individual\_runs, "2")==0){

//double run is taken by batsman

over\_runs=over\_runs+2;

}

else if(strcmp(individual\_runs, "3")==0){

//3 runs scored

over\_runs=over\_runs+3;

}

else if(strcmp(individual\_runs, "4")==0){

//batsman hits a four

over\_runs=over\_runs+4;

}

else if(strcmp(individual\_runs, "5")==0){

over\_runs=over\_runs+5;

}

else if(strcmp(individual\_runs, "6")==0){

//batsman hits a six

over\_runs=over\_runs+6;

}

else if(strcmp(individual\_runs, "w")==0){

//batsman is out

wickets\_fall=wickets\_fall+1;

}

//for ball 5

scanf("%s", individual\_runs);

if(strcmp(individual\_runs, "1")==0){

//1 run is scored found

over\_runs++;

}

else if(strcmp(individual\_runs, "2")==0){

//double run is taken by batsman

over\_runs=over\_runs+2;

}

else if(strcmp(individual\_runs, "3")==0){

//3 runs scored

over\_runs=over\_runs+3;

}

else if(strcmp(individual\_runs, "4")==0){

//batsman hits a four

over\_runs=over\_runs+4;

}

else if(strcmp(individual\_runs, "5")==0){

over\_runs=over\_runs+5;

}

else if(strcmp(individual\_runs, "6")==0){

//batsman hits a six

over\_runs=over\_runs+6;

}

else if(strcmp(individual\_runs, "w")==0){

//batsman is out

wickets\_fall=wickets\_fall+1;

}

//for ball 6

scanf("%s", individual\_runs);

if(strcmp(individual\_runs, "1")==0){

//1 run is scored found

over\_runs++;

}

else if(strcmp(individual\_runs, "2")==0){

//double run is taken by batsman

over\_runs=over\_runs+2;

}

else if(strcmp(individual\_runs, "3")==0){

//3 runs scored

over\_runs=over\_runs+3;

}

else if(strcmp(individual\_runs, "4")==0){

//batsman hits a four

over\_runs=over\_runs+4;

}

else if(strcmp(individual\_runs, "5")==0){

over\_runs=over\_runs+5;

}

else if(strcmp(individual\_runs, "6")==0){

//batsman hits a six

over\_runs=over\_runs+6;

}

else if(strcmp(individual\_runs, "w")==0){

//batsman is out

wickets\_fall=wickets\_fall+1;

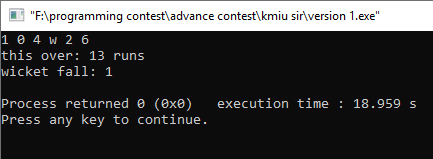
}

printf("this over: %d runs\nwicket fall: %d\n", over\_runs, wickets\_fall);

return 0;

}

**Output Screen-Shot:**



**VERSION 2**

Code of version 1 is very big. I was doing same thing again and again. So, I can use here loop. In version 2, I have written almost the same program using loop. I added more probable input in this version too. No ball, wide ball also be checked in this version. If no ball bowled then batsman will get a free hit. For wide ball batsman will get a run and a ball extra

**Code:** (<https://paste.ubuntu.com/p/YJGtGWghXs/>)

#include<stdio.h>

#include<string.h>

int main(){

int over\_runs=0, wickets\_fall=0, ball\_counter, no\_ball\_flag=0;

char individual\_runs[5]; // an char array for taking ball by ball runs

for(ball\_counter=1; ball\_counter<=6; ball\_counter++){

printf("Ball %d: ", ball\_counter);

scanf("%s", individual\_runs);

//lets check if the run is 1, 2, 4, 6 or something else

if(strcmp(individual\_runs, "0")==0){

over\_runs=over\_runs+0;

no\_ball\_flag=0; //no\_ball\_flag is 0. it means the bowl is not a no ball

}

else if(strcmp(individual\_runs, "1")==0){

//1 run is scored found

over\_runs++;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "2")==0){

//double run is taken by batsman

over\_runs=over\_runs+2;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "3")==0){

over\_runs=over\_runs+3;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "4")==0){

//batsman hits a four and its not a no ball.

over\_runs=over\_runs+4;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "5")==0){

over\_runs=over\_runs+5;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "6")==0){

//batsman hits a six and its not a no ball.

over\_runs=over\_runs+6;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "wd")==0 || strcmp(individual\_runs, "WD")==0){

//bowler bowled a wide ball, so add an extra run without adding any bowl! this is how we will deal with wide or no ball.

over\_runs++;

ball\_counter--;

if(no\_ball\_flag==1){

printf("(FREE HIT) "); //check if the previous ball was wide or not. if previous would no ball, free hit will still be there for batsman

}

}

else if(strcmp(individual\_runs, "nb")==0 || strcmp(individual\_runs, "NB")==0){

//bowler bowled a no ball. batsman will get a free hit in the next ball.

no\_ball\_flag=1;

printf("(FREE HIT) ");

over\_runs++;

ball\_counter--;

}

else if(strcmp(individual\_runs, "w")==0 || strcmp(individual\_runs, "W")==0){

//a batsman is out.

//time to check if it was a free hit ball! batsman will not out if previous ball was a no ball.

if(no\_ball\_flag==0){

wickets\_fall++;

}

else{

no\_ball\_flag=0;

}

}

else if(strcmp(individual\_runs, "1nb")==0 || strcmp(individual\_runs, "1NB")==0){

//no ball but 1 run taken by batsman as well

no\_ball\_flag=1;

printf("(FREE HIT) "); //will get a free hit

over\_runs=over\_runs+2;

ball\_counter--;

}

else if(strcmp(individual\_runs, "2nb")==0 || strcmp(individual\_runs, "2NB")==0){

//no ball but 2 run taken by batsman as well

no\_ball\_flag=1;

printf("(FREE HIT) "); //will get a free hit

over\_runs=over\_runs+3;

ball\_counter--;

}

else if(strcmp(individual\_runs, "1wd")==0 || strcmp(individual\_runs, "1WD")==0){

//wide bowl but batsman taken 1 run

over\_runs=over\_runs+2;

ball\_counter--;

if(no\_ball\_flag==1){

printf("(FREE HIT) "); //checking if it was a free hit delivery

}

}

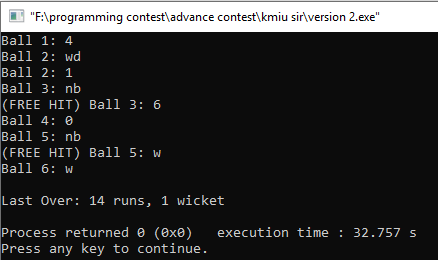
}

printf("\nLast Over: %d runs, %d wicket\n", over\_runs, wickets\_fall);

return 0;

}

**Output Screen-Shot:**



**VERSION 3**

In this 3rd and final version, I have written the whole code of the project. I have given my information here as well. In this version I used nested loop in order to run the version 2 program for a limited over that is given by user. If user input 20 then code of version 2 will be generated for 20 times and calculate the whole 20 overs runs and wickets. In this final version, I added run rate features which will be displayed after 1 over continuously. After ending first innings (all wickets down or full over played), a target will be displayed. The code is given below:

**Code:** (<https://paste.ubuntu.com/p/FxxRmSXS6h/>)

#include<stdio.h>

#include<string.h>

int main(){

int total\_runs=0, over\_runs=0, wickets\_fall=0, total\_over, total\_over\_counter, ball\_counter, no\_ball\_flag=0;

char individual\_runs[5]; // an char array for taking ball by ball runs

float run\_rate;

printf("CRICKET SCORE CALCULATOR PROJECT for Structured Programming Course\n");

printf("------------------------------------------------------------------\n");

printf("Made by MIR ANUPAM HOSSAIN AKIB\nID: 191-35-2640 (Section B)\n");

printf("==================================================================\n");

printf("| Help: Enter total over first and then input ball by ball runs (ex: 1, 2, 4, 6). if it is wide ball input WD or wd,\n| for no ball NB or nb, for wicket W or w, for no ball and runs (1nb, 2nb, 4nb), for wide and runs (1wd, 2wd)\n\n");

printf("==================================================================\n");

printf("Enter Total Over that will be played:\n");

scanf("%d", &total\_over);

//run a nested loop to get over and ball that is bowled

for(total\_over\_counter=0; total\_over\_counter<total\_over; total\_over\_counter++){

for(ball\_counter=1; ball\_counter<=6; ball\_counter++){

printf("Ball %d.%d: ", total\_over\_counter, ball\_counter);

scanf("%s", individual\_runs);

//lets check if the run is 1, 2, 4, 6 or something else

if(strcmp(individual\_runs, "0")==0){

over\_runs=over\_runs+0;

no\_ball\_flag=0; //no\_ball\_flag is 0. it means the bowl is not a no ball

}

else if(strcmp(individual\_runs, "1")==0){

//1 run is scored found

over\_runs++;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "2")==0){

//double run is taken by batsman

over\_runs=over\_runs+2;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "3")==0){

over\_runs=over\_runs+3;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "4")==0){

//batsman hits a four and its not a no ball.

over\_runs=over\_runs+4;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "5")==0){

over\_runs=over\_runs+5;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "6")==0){

//batsman hits a six and its not a no ball.

over\_runs=over\_runs+6;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "7")==0){

//if 7 run is scored anyway

over\_runs=over\_runs+7;

no\_ball\_flag=0;

}

else if(strcmp(individual\_runs, "wd")==0 || strcmp(individual\_runs, "WD")==0){

//bowler bowled a wide ball, so add an extra run without adding any bowl! this is how we will deal with wide or no ball.

over\_runs++;

ball\_counter--;

if(no\_ball\_flag==1){

printf("(FREE HIT) "); //check if the previous ball was wide or not. if previous would no ball, free hit will still be there for batsman

}

}

else if(strcmp(individual\_runs, "nb")==0 || strcmp(individual\_runs, "NB")==0){

//bowler bowled a no ball. batsman will get a free hit in the next ball.

no\_ball\_flag=1;

printf("(FREE HIT) ");

over\_runs++;

ball\_counter--;

}

else if(strcmp(individual\_runs, "w")==0 || strcmp(individual\_runs, "W")==0){

//a batsman is out.

//time to check if it was a free hit ball! batsman will not out if previous ball was a no ball.

if(no\_ball\_flag==0){

wickets\_fall++;

}

else{

no\_ball\_flag=0;

}

}

else if(strcmp(individual\_runs, "1nb")==0 || strcmp(individual\_runs, "1NB")==0){

//no ball but 1 run taken by batsman as well

no\_ball\_flag=1;

printf("(FREE HIT) "); //will get a free hit

over\_runs=over\_runs+2;

ball\_counter--;

}

else if(strcmp(individual\_runs, "2nb")==0 || strcmp(individual\_runs, "2NB")==0){

//no ball but 2 run taken by batsman as well

no\_ball\_flag=1;

printf("(FREE HIT) "); //will get a free hit

over\_runs=over\_runs+3;

ball\_counter--;

}

else if(strcmp(individual\_runs, "3nb")==0 || strcmp(individual\_runs, "3NB")==0){

no\_ball\_flag=1;

printf("(FREE HIT) ");

over\_runs=over\_runs+4;

ball\_counter--;

}

else if(strcmp(individual\_runs, "4nb")==0 || strcmp(individual\_runs, "4NB")==0){

no\_ball\_flag=1;

printf("(FREE HIT) ");

over\_runs=over\_runs+5;

ball\_counter--;

}

else if(strcmp(individual\_runs, "6nb")==0 || strcmp(individual\_runs, "6NB")==0){

no\_ball\_flag=1;

printf("(FREE HIT) ");

over\_runs=over\_runs+7;

ball\_counter--;

}

else if(strcmp(individual\_runs, "1wd")==0 || strcmp(individual\_runs, "1WD")==0){

//wide bowl but batsman taken 1 run

over\_runs=over\_runs+2;

ball\_counter--;

if(no\_ball\_flag==1){

printf("(FREE HIT) "); //checking if it was a free hit delivery

}

}

else if(strcmp(individual\_runs, "2wd")==0 || strcmp(individual\_runs, "2WD")==0){

//wide bowl but batsman taken 2 run

over\_runs=over\_runs+3;

ball\_counter--;

if(no\_ball\_flag==1){

printf("(FREE HIT) "); //checking if it was a free hit delivery

}

}

else if(strcmp(individual\_runs, "4wd")==0 || strcmp(individual\_runs, "4WD")==0){

//4 and wide. so 5 will be added

over\_runs=over\_runs+5;

ball\_counter--;

if(no\_ball\_flag==1){

printf("(FREE HIT) ");

}

}

//check if an over is completed, six valid ball bowled.

if(ball\_counter==6){

total\_runs=total\_runs+over\_runs;

run\_rate=total\_runs/(total\_over\_counter+1.0);

//print total runs, run rate and last over runs

printf("\nAfter over %d,\n Total Runs: %d/%d\n Current Run Rate: %.2f\n Last Over: %d runs\n\n", total\_over\_counter+1, total\_runs, wickets\_fall, run\_rate, over\_runs);

over\_runs=0;

}

if(wickets\_fall==10){ //check if 10 wickets (maximum wickets) are fallen.

break; //nested loop will be broken if all wickets are fallen

}

}

if(wickets\_fall==10){

printf("ALL WICKETS!\n"); //printing this msg before breaking the loop

if(ball\_counter!=6){ //when all wickets down before ending an over, it will execute

printf("\nAfter over %d.%d,\n Total Runs: %d/%d\n Last Over: %d runs\n\n", total\_over\_counter, ball\_counter, total\_runs, wickets\_fall, over\_runs);

}

break;

}

}

//set the target for the other team;

printf("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n");

printf("TARGET: %d runs in %d overs\n", total\_runs+1, total\_over);

printf("---------------------------\n");

return 0;

}

**Output Screen-Shot:**

