

LAPORAN PRAKTIKUM PEMROGRAMAN TERSTRUKTUR
PRAKTIKUM 2 – KELAS C



Disusun Oleh :

Nama/NIM : Grego Ivan S.E. / 175090807111010

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LABORATORIUM KOMPUTASI

JURUSAN FISIKA

FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM

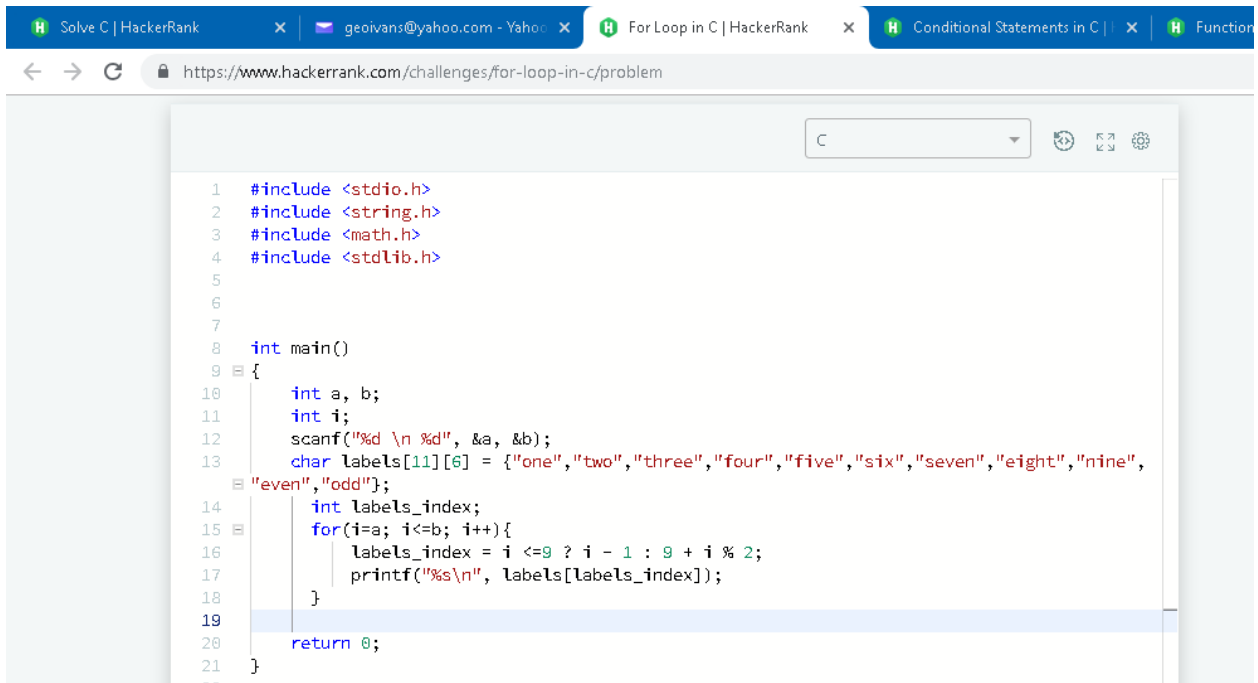
UNIVERSITAS BRAWIJAYA

2019

A. Percobaan Praktikum

Pada percobaan praktikum, praktikum dilakukan melalui situs HackerRank. Dari situs tersebut, terdapat materi tentang bagaimana menyelesaikan suatu masalah dalam bahasa pemrograman, khususnya Bahasa C. Percobaan melakukan 3 program solving, yaitu program “For Loop In C”, “Conditional Statements In C”, dan “Function in C”.

1. Kode Program 1 (For Loop In C).



```
1  #include <stdio.h>
2  #include <string.h>
3  #include <math.h>
4  #include <stdlib.h>
5
6
7
8  int main()
9  {
10     int a, b;
11     int i;
12     scanf("%d %d", &a, &b);
13     char labels[11][6] = {"one", "two", "three", "four", "five", "six", "seven", "eight", "nine",
14     "even", "odd"};
15     int labels_index;
16     for(i=a; i<=b; i++){
17         labels_index = i <= 9 ? i - 1 : 9 + i % 2;
18         printf("%s\n", labels[labels_index]);
19     }
20     return 0;
21 }
```

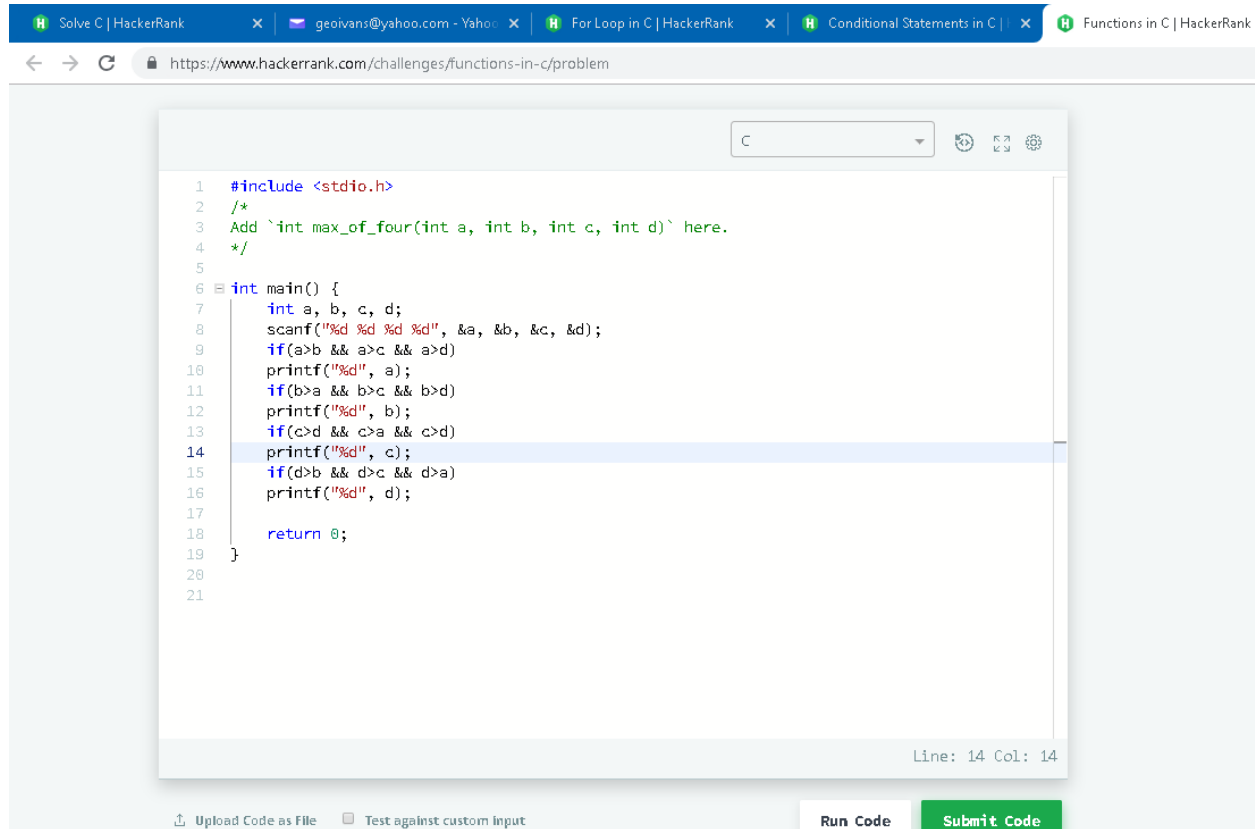
Dengan input interger masukkan nilai a dan b dengan code yaitu tidak kurang dari 1 dan tidak lebih dari 10. Kemudian, character akan membaca masukkan dari interger a dan b. Nilai a sebagai awalan dan b sebagai akhiran dari character selanjutnya output akan mengeluarkan karakter yang sesuai dengan nilai interger a dan b. Lalu, interger pada nilai i untuk melanjutkan dari masukkan a, tetapi nilai i lebih kecil sama dengan b maka nilai i akan ditambahkan 1 hingga i=b. Lalu, jika nilai I sudah sama dengan nilai b, maka program akan tersebut akan berhenti mengulang. Output akan menghasilkan pada bawah ini:

- Menghasilkan Output

The screenshot shows a web browser with multiple tabs. The active tab is 'For Loop in C | HackerRank'. The address bar shows the URL: <https://www.hackerrank.com/challenges/for-loop-in-c/problem>. The page displays a code editor with a status bar indicating 'Line: 19 Col: 1'. Below the editor, there are buttons for 'Upload Code as File', 'Test against custom input', 'Run Code', and 'Submit Code'. A green banner reads 'Congratulations!' followed by the text 'You have passed the sample test cases. Click the submit button to run your code against all the test cases.' Below this, a 'Sample Test case 0' is shown with a green checkmark. The test case details are as follows:

Input (stdin)	Your Output (stdout)	Expected Output
8 11	eight nine even odd	eight nine even odd

2. Kode Program 2 (Function In C)



The screenshot shows a web browser with multiple tabs. The active tab is 'Functions in C | HackerRank'. The address bar shows the URL 'https://www.hackerrank.com/challenges/functions-in-c/problem'. The code editor displays the following C code:

```
1  #include <stdio.h>
2  /*
3   Add `int max_of_four(int a, int b, int c, int d)` here.
4   */
5
6  int main() {
7      int a, b, c, d;
8      scanf("%d %d %d %d", &a, &b, &c, &d);
9      if(a>b && a>c && a>d)
10         printf("%d", a);
11     if(b>a && b>c && b>d)
12         printf("%d", b);
13     if(c>d && c>a && c>b)
14         printf("%d", c);
15     if(d>b && d>c && d>a)
16         printf("%d", d);
17
18     return 0;
19 }
20
21
```

At the bottom of the editor, there are buttons for 'Upload Code as File', 'Test against custom input', 'Run Code', and 'Submit Code'. The status bar at the bottom right indicates 'Line: 14 Col: 14'.

Dengan menginput nilai sebanyak 4 kali tanpa batas, 4 kali pengulangan dengan angka yang berbeda, program segera memproses nilai inputan terbesar dan langsung dijadikan output. Pada program ini, jika nilai a lebih besar dari b, c, dan d maka dimana nilai b input kedua akan langsung diprint. Lalu, jika nilai c lebih besar dari nilai antara a, b, dan d maka nilai c akan menjadi input ketiga dan akan diprint langsung. Demikian juga pada nilai d, akan menjadi inputan keempat.

- Output yang dihasilkan, berupa

The screenshot shows a web browser with several tabs open, including 'Solve C | HackerRank', 'geoivans@yahoo.com - Yahoo', 'For Loop in C | HackerRank', 'Conditional Statements in C |', and 'Functio'. The address bar shows the URL 'https://www.hackerrank.com/challenges/functions-in-c/problem'. The page content includes a code editor area at the top with a status bar indicating 'Line: 14 Col: 14'. Below the editor are two buttons: 'Run Code' and 'Submit Code'. A large green 'Congratulations!' message is displayed, followed by the text 'You have passed the sample test cases. Click the submit button to run your code against all the test cases.' Below this, a detailed view of 'Sample Test case 0' is shown, which is marked as passed with a green checkmark. This view includes three sections: 'Input (stdin)' with the values 3, 4, 6, and 5; 'Your Output (stdout)' with the value 6; and 'Expected Output' with the value 6. Each section has a 'Download' link next to it.

Line: 14 Col: 14

Upload Code as File Test against custom input

Run Code Submit Code

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

Sample Test case 0 ✓

Input (stdin) [Download](#)

3
4
6
5

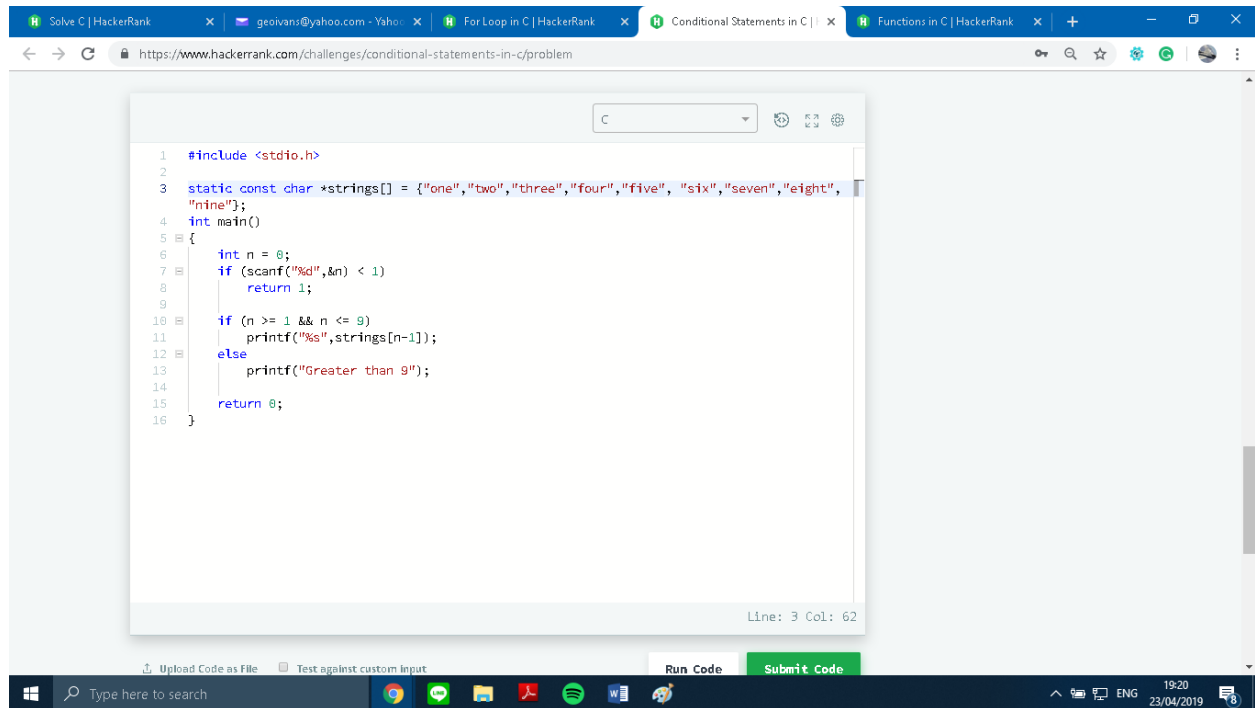
Your Output (stdout)

6

Expected Output [Download](#)

6

3. Kode Program 3 (Conditional Statement s In C)



```
1 #include <stdio.h>
2
3 static const char *strings[] = {"one", "two", "three", "four", "five", "six", "seven", "eight",
  "nine"};
4 int main()
5 {
6     int n = 0;
7     if (scanf("%d", &n) < 1)
8         return 1;
9
10    if (n >= 1 && n <= 9)
11        printf("%s", strings[n-1]);
12    else
13        printf("Greater than 9");
14    return 0;
15 }
16
```

Line: 3 Col: 62

Upload Code as File Test against custom input Run Code Submit Code

Pada program ini pada saat input lebih dari nilai 9 maka output yang keluar akan bertuliskan “greater than 9”. Jika kurang dari 9 maka output muncul kata yang berasal dari strings tersebut sesuai dengan angka inputan.

- Output yang dihasilkan, berupa

The screenshot shows the HackerRank interface for the 'Conditional Statements in C' challenge. The browser tabs include 'Solve C | HackerRank', 'geoivans@yahoo.com', 'For Loop in C | HackerRank', 'Conditional Statements', 'Functions in C | HackerRank', and 'Conditional Statement'. The URL is 'https://www.hackerrank.com/challenges/conditional-statements-in-c/problem'. The code editor shows 'Line: 3 Col: 62'. Below the editor are buttons for 'Upload Code as File', 'Test against custom input', 'Run Code', and 'Submit Code'. A green 'Congratulations!' message states: 'You have passed the sample test cases. Click the submit button to run your code against all the test cases.' A panel on the left lists 'Sample Test case 0', 'Sample Test case 1', and 'Sample Test case 2', all with green checkmarks. The right panel for 'Sample Test case 0' shows: 'Input (stdin)' as '5', 'Your Output (stdout)' as 'five', and 'Expected Output' as 'five'. There are 'Download' links for the input and expected output.

This screenshot is similar to the one above, showing the same HackerRank challenge interface. The browser tabs and URL are identical. The 'Congratulations!' message is also present. The panel on the left lists 'Sample Test case 0', 'Sample Test case 1', and 'Sample Test case 2', all with green checkmarks. The right panel for 'Sample Test case 1' shows: 'Input (stdin)' as '8', 'Your Output (stdout)' as 'eight', and 'Expected Output' as 'eight'. There are 'Download' links for the input and expected output. The Windows taskbar at the bottom shows the system clock as 19:40 on 23/04/2019.

Solve C | HackerRank

geoivans@yahoo.com

For Loop in C | HackerRank

Conditional Statements

Functions in C | HackerRank

Conditional Statement

https://www.hackerrank.com/challenges/conditional-statements-in-c/problem

Line: 3 Col: 62

Upload Code as File

Test against custom Input

Run Code

Submit Code

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

Sample Test case 0

Sample Test case 1

Sample Test case 2

Input (stdin)

Download

44

Your Output (stdout)

Greater than 9

Expected Output

Download

Greater than 9

Type here to search

ENG

19:41

23/04/2019