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COMPUTER PROGRAM on GUESS GAME of THE 100 METERS SPRINT FOR JUNIOR HIGH SCHOOL ATHLETE

Andun Sudijandoko[*], *Syamsul Arifin*[**]
[*]Sport Science Faculties, State University of Surabaya, [**]Medic Laboratory Technology Department, Health Polytechnic, Republic Indonesia Health Ministry of Surabaya

ABSTRACT

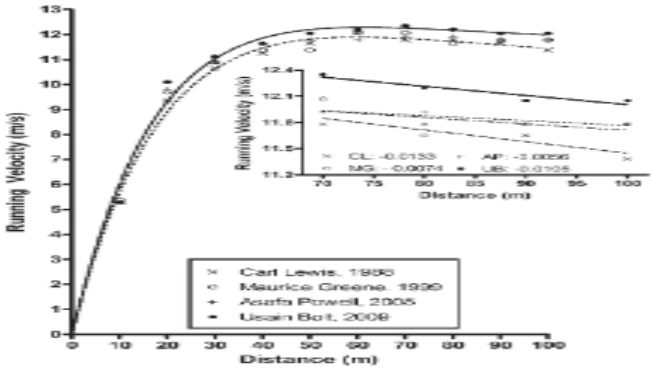
The basic of computer program (CP) for game[1)] is natural science base. this game is guess making speed (V) of 100-meter (m) sprint, that is from the data input, data analysis, process of guess, the end of games (repeat or stop). The game of 100-m sprint and guessing game to find the speed in aerobics ($V_{maximum}$) or anaerobic is great fun to kill time and brain teaser. That 100-m sprint running has two activities to be change energy in 100-m sprint. The 1st aerobic burning was reacted respiration of oxygen and carbohydrate[2)]. The 2nd anaerobic energy was the breakdown of fat metabolic by hydrogen[2)].
The 1st step of game, you can entry some data as: (i). type name: …, as FIN, (ii). type body mass: .., as 46 Kilogram, (iii). type guess traveling time at some distance (as 0 = 0.0, 20 = 30.0, 40 = 31.5, 60 = 34.0, 80 = 40.0, 100 = 39.0 kilometers per hours (km/h). The 2nd you can look some criteria of result in after type your predicted from step 1st, the result as (i). CP output your model = 10 m sprint, (ii). CP your acceleration in 0-70 m = Have acceleration, (iii). CP your $V_{maximum}$ (aerobic) = there V aerobic, (iv). CP of $V_{anaerobic}$ (there or no) = there V anaerobic, (v). CP of game result (in Indonesian language) = "ANDA BENAR-BENAR MELAKUKAN LARI 100 M SPRINT",

Key word: Computer Programing, Guess, Sprint, Game.

INTRODUCTION

A. The concept of developed CP has many natural sciences and mathematics, its direct supporting science this science as Python, Java Script, C, Basics, Fortran, Delphi, MS Excel on Window is used in this search study.
B. The mathematical solution in computed CP have multiple as code:
(i). **[A_1*B_1]** is multiply between cell A_1 and cell B_1, (ii). **[A_1+B_1]** is Add between cell A_1 and cell B_1, (iii). **[A_1-B_1]** is Subtract between cell A_1 and cell B_1, (iv). **[A_1/B_1]** is quotient between cell A_1 and cell B_1, etc.
C. In 100 m Sprint there's a sprint block tool that is used as an assistant to create a bomb sprint movement at original start in first running[3)].
D. The theorical base of concept of 100 m sprint is running activity by two system that a distance of 0 – 70 m is aerobic activity and 70 100-m is anaerobic activity, where the phenomenon of energy transfer occurs between aerobic and anaerobic by

difference metabolism. That concept of 100 m run can be seen:



Picture-1: This's model from "The Science of Speed: Determinants of Performance in the 100 m Sprint[3)], Athletic Performance graphics is: Carl Lewis (1988), Maurice Greene (1999), Asafa Powell (2005), Usain Bolt (2009)[3)]

METHOD AND MATERIAL

The procedure of CP as:

Procedur-1 is collected primary data by predicted that is type your speed guess game in distance as; 0 = "…", 20 = "…", 30 = "…", 60 = "…" (km/h) as data aerobics speed running, and 80 = "…", 100 = "…" (km/h) as data anaerobic speed running.

Procedur-2 is result by theories of If…then …else, this procedure is type if in escape cell, type opening bracket, select target cell-1 and type math sign: <,>, =, +, -, or combine, type target cell-2, then type "statement-1" as if accepted, and statement-2 as rejected then close brackets. etc.

Procedur-3: Playing the game by technique: (i).Type a name in the name box, (ii). Type you mass body, (iii). Type your speed in the speed box as number speed guess in the box data. (iv). The result of your indicates number of your guess is TRUE or FALSE you can look in five box statement that: (i). CP output your model is having statement "10 m sprint" or "no sprint", (ii). CP your acceleration in 0-70 m is having statement "acceleration" or "no acceleration", (iii). CP your $V_{maximum}$ (aerobic) is having statement "there V aerobic" or "no V aerobic", (iv) CP of $V_{anaerobic}$ (there or no) is having statement "there V anaerobic" or "no V anaerobic", (v). CP of game result (in Indonesian language) is having statement "ANDA BENAR-BENAR MELAKUKAN LARI 100 M SPRINT" or "MAAF ANDA TIDAK MELAKUKAN SPRINT DENGAN BENAR", that layout of result is:

Table-1 Layout of input and game result box of CP,

THREE: STATISTICALLY from CONCEPT of ADITI and ROBERT								
YOUR 100 Meters SPRINT TRAINING (DETECT SPEED IN Km/H)								
INPUT	Name			excution	OUTPUT CP from YOUR DATA PREDICTION			
	body mass		Kg		CP Your Average =	0.00		
Nomber	Distancs	Type Your V data			CP OUTPUT your model =	no sprint		
1	0		km/h		CP Your Accelation in 0-70 m=	no accelation		
2	20		km/h	0	CP Your $V_{maximum}$ (aerobic)	no V aerobic		
3	40		km/h	0	CP of V anaerobic (there or not) =	no V anaerobic		
4	60		km/h	0	CP of Outcame prediction			
5	80		km/h	0	MAAF ANDA TIDAK MELAKUKAN SPRIN			
6	100		km/h	1	DENGAN BENAR			
CODES	1	0	0	1	2			
CP of MATH CALCULATE								
$V_{anaerobic}$ CP	no V anaerobic	CP of model =	no sprint	Accelate CP:	no accelation	$V_{aerobic}$ CP	no V aerobic	

Note: The box of calculate data is: (i). $V_{anaerobic}$ CP, (ii). CP of model, Accelerate CP, $V_{aerobic}$ CP.

RESULT

1. The CP of base data analysis by Junior High School athlete in 100 meters run that the condition of school junior high school athletes is the same as that of international athletes[3)] this science of speed number guess is intended for:

(i). Junior High School that science of guess predicted maximum speed ($V_{maximum}$) by basic mathematical theory, which can be seen in this table:

Table-2 Layout of Guess Choice One of Input Data and Game Result of Prediction Data from $V_{100\ m}$

ONE: STATISTICALLY from CONCEPT of ADITI and ROBERT								
YOUR 100 Meters SPRINT TRAINING (DETECT SPEED IN Km/H)								
INPUT	Name	FIN		excution	OUTPUT CP from YOUR DATA PREDICTION			
	body mass	46	Kg					
Nomber	Distancs	Type Your V data			CP OUTPUT your model =	100 m Sprint		
1	0	0.0	km/h		CP Your Accelation in 0-70 m=	Have accelation		
2	20	30.0	km/h	1	CP Your $V_{maximum}$ (aerobic)	there V aerobic		
3	40	31.5	km/h	1	CP of V $_{anaerobic}$ (there or no) =	there V anaerobic		
4	60	34.0	km/h	1	CP of Outcame prediction			
5	80	40.0	km/h	1	ANDA BENAR-BENAR MELAKUKAN LARI			
6	100	39.0	km/h	1	100 METER SPRINT			
CODES	2	4	4	5	15			
CP of MATH CALCULATE								
		CP of model =	100 m Sprint	Accelate CP:	Have accelation	$V_{aerobic}$	there V aerobic	
$V_{anaerobic}$	there V anaerobic							

Table-3 Layout of Guess Choice Two of Input Data and Game Result of Prediction Data from $V_{100\ m}$

TWO: STATISTICALLY from CONCEPT of ADITI and ROBERT								
YOUR 100 Meters SPRINT TRAINING (DETECT SPEED IN Km/H)								
INPUT	Name			excution	OUTPUT CP from YOUR DATA PREDICTION			
	body mass		Kg					
Nomber	Distancs	Type Your V data			CP OUTPUT your model =	no sprint		
1	0	0.0	km/h		CP Your Accelation in 0-70 m=	Have accelation		
2	20	24.5	km/h	1	CP Your $V_{maximum}$ (aerobic)	there V aerobic		
3	40	31.0	km/h	1	CP of V anaerobic (there or not) =	no V anaerobic		
4	60	34.0	km/h	1	CP of Outcame prediction			
5	80	40.0	km/h	1	MAAF ANDA TIDAK MELAKUKAN SPRIN			
6	100	41.0	km/h	0	DENGAN BENAR			
CODES	1	4	4	4	13			
CP of MATH CALCULATE								
$V_{anaerobic}$	no V anaerobic	CP of model =	no sprint	Accelate CP:	Have accelation	$V_{aerobic}$	there V aerobic	

Table-4 Layout of Guess Choice Three of Input Data and Game Result of Prediction Data from $V_{100\ m}$

THREE: STATISTICALLY from CONCEPT of ADITI and ROBERT								
YOUR 100 Meters SPRINT TRAINING (DETECT SPEED IN Km/H)								
INPUT	Name			excution	OUTPUT CP from YOUR DATA PREDICTION			
	body mass		Kg					
Nomber	Distancs	Type Your V data			CP OUTPUT your model =	no sprint		
1	0	0.0	km/h		CP Your Accelation in 0-70 m=	no accelation		
2	20	24.5	km/h	1	CP Your $V_{maximum}$ (aerobic)	no V aerobic		
3	40	31.0	km/h	1	CP of V anaerobic (there or not) =	there V anaerobic		
4	60	31.0	km/h	0	CP of Outcame prediction			
5	80	40.0	km/h	1	MAAF ANDA TIDAK MELAKUKAN SPRIN			
6	100	40.0	km/h	1	DENGAN BENAR			
CODES	2	3	3	4	12			
CP of MATH CALCULATE								
$V_{anaerobic}$ CP	there V anaerobic	CP of model =	no sprint	Accelate CP:	no accelation	$V_{aerobic}$ CP	no V aerobic	

Notes of Layout of Guess Choice One, Two and Three: (i). Type your name is FIN. (ii). Type your body mass: 46 kg. (iii). Type your choice V data in distances: (**One**), the 0 (m) is 0.0 (km/h), the 20 (m) is 30.0 (km/h), the 40 (m) is 31.5 (km/h), the 60 (m) is 34.0 (km/h), the 80 (m) is 40.0 (km/h), the 100 (m) is 39.0 (km/h). (**Two**), the 0 (m) is 0.0 (km/h), the 20 (m) is 24.5 (km/h), the 40 (m) is 31.0 (km/h), the 60 (m) is 34.0 (km/h), the 80 (m) is 40.0 (km/h), the 100 (m) is 41.0 (km/h). (**Three**), the 0 (m) is 0.0 (km/h), the 20 (m) is 30.0 (km/h), the 40 (m) is 31.5 (km/h), the 60 (m) is 34.0 (km/h), the 80 (m) is 40.0 (km/h), the 100 (m) is 40.0 (km/h).

The CP results of speed data of Guess Choice One, Two and Three will be get: (i). CP output your model: (**One**) is

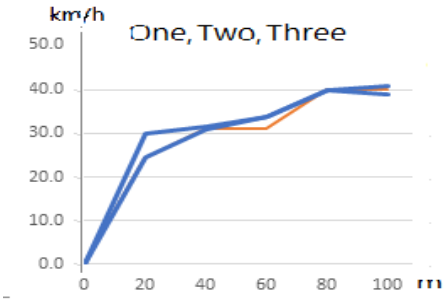
"100 m sprint", that has requirement as: $V_{0\ m} < V_{20\ m} < V_{40\ m} < V_{60\ m} < V_{80\ m} \leq V_{100\ m}$. (**Two**) is "no sprint", that has requirement as: $V_{0\ m} < V_{20\ m} < V_{40\ m} < V_{60\ m} <$ $V80\ m > V100\ m$. (**Three**) is "no sprint", that has requirement as: $V_{0\ m} < V_{20\ m} <$ $V_{40\ m} = V_{60\ m} < V_{80\ m} \leq V_{100\ m}$.

(ii). CP your acceleration in 0-70 m: (**One**) is "have acceleration", that has requirement data like: $V_{0\ m} < V_{20\ m} < V_{40\ m} < V_{60\ m}$. (**Two**) is "have acceleration", that has requirement data like: $V_{0\ m} < V_{20\ m} < V_{40\ m} < V_{60\ m}$. (**Three**) is "no acceleration", that has requirement data like: $V_{0\ m} < V_{20\ m} < V_{40\ m} = V_{60\ m}$

(iii). CP your $V_{maximum}$ (aerobic): (**One**) is "there $V_{aerobic}$", that has requirement data as: $V_{0\ m} < V_{20\ m} < V_{40\ m} < V_{60\ m}$. (**Two**) is "there $V_{aerobic}$", that has requirement data as: $V_{0\ m} < V_{20\ m} < V_{40\ m} < V_{60\ m}$. (**Three**) is "no $V_{aerobic}$", that has requirement data as: $V_{0\ m} < V_{20\ m} < V_{40\ m} = V_{60\ m}$.

(iv). CP of $V_{anaerobic}$: (**One**) is "there $V_{anaerobic}$", that has requirement data like as: $V_{80\ m} \leq V_{100\ m}$. (**Two**) is "there $V_{aerobic}$", that has requirement data as: $V_{80\ m} > V_{100\ m}$. (**Three**) is "there $V_{aerobic}$", that has requirement data as: $V_{80\ m} = V_{100\ m}$ this's anaerobic running

(v). The final game in CP of outcome prediction (in Indonesia languages): (**One**) is "ANDA BENAR-BENAR MELAKUKAN LARI 100 METER SPRINT", which satisfies the total number of excution. (**Two**) is "MAAF ANDA TIDAK MELAKUKAN SPRINT DENGAN BENAR", which no satisfies the total number of excution. (**Three**) is "MAAF ANDA TIDAK MELAKUKAN SPRINT DENGAN BENAR", which no satisfies the total number of excution.



Picture-2: Combination of three graphs with notes of plotting graphs from Table 2 (**One**) is having perfect of total execution number that's having 15. Table 3 (**Two**) is not perfect in total execution number that's lower then 15, because $V_{80\ m}$ lower then $V_{100\ m}$, Table 4 (**Three**) is not perfect in total execution number that's lower then 15, because $V_{40\ m}$ as same as $V_{60\ m}$.

DISSCUSION

If the guess questions will be more difficult to be developed:

Discussion-1. In this game as Speed in $V_{maximum}$ units of meter/second, how is it in kilometer/hours[4)] to guess?

Discussion-2. The game as time unit, how is it in $t_{aerobic}$ or $t_{anaerobic}$ that unit is second or hour[4)] to guess?

Discussion-3. The game as acceleration unit, how is it that acceleration of

aerobic in meter/second^2 or kilometer/hour^2 [4] to guess?

Discussion-4. The game as work forces unit, how is it that work forces[4] to guess?

Discussion-5. The game as blood glucose level, how is it that blood glucose level by peripheral blood[5] or venous blood sample[2] to guess?

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