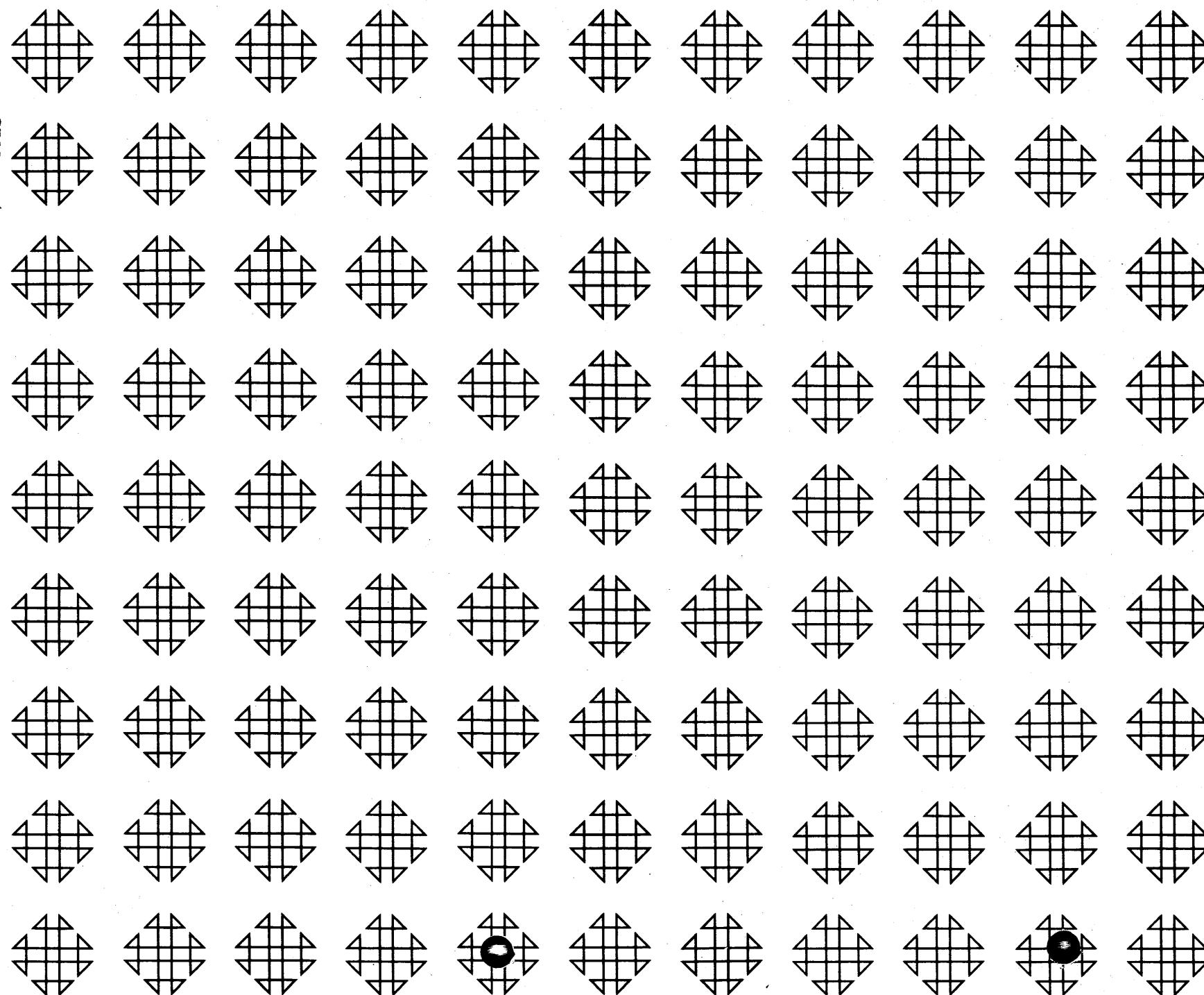


COMMERCIAL LOGO

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HAMMOND, IN 46323



1620 GENERAL PROGRAM LIBRARY

B B C Baseball Simulation and Demonstrator

11.0.032

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## 1620 USERS GROUP PROGRAM REVIEW AND EVALUATION

Program No. \_\_\_\_\_

Date \_\_\_\_\_

Program Name: \_\_\_\_\_

1. Does the abstract adequately describe what the program is and what it does?

Comment \_\_\_\_\_

Yes    No   

2. Does the program do what the abstract says?

Comment \_\_\_\_\_

Yes    No   

3. Is the Description clear, understandable, and adequate?

Comment \_\_\_\_\_

Yes    No   

4. Are the Operating Instructions understandable and in sufficient detail?

Comment \_\_\_\_\_

Yes    No   

Are the Sense Switch options adequately described (if applicable)?

Are the mnemonic labels identified or sufficiently understandable?

Comment \_\_\_\_\_

Yes    No   

Yes    No   

5. Does the source program compile satisfactorily (if applicable)?

Comment \_\_\_\_\_

Yes    No   

6. Does the object program run satisfactorily?

Comment \_\_\_\_\_

Yes    No   

7. Number of test cases run \_\_\_\_\_

Are any restrictions as to data, size, range, etc. covered adequately in description?

Comment \_\_\_\_\_

Yes    No   

8. Does the Program meet the minimal standards of the 1620 Users Group?

Comment \_\_\_\_\_

Yes    No   

9. Please list any suggestions to improve the usefulness of the program. These will be passed on to the author for his consideration.

Comment \_\_\_\_\_

Please return to:

Your Name \_\_\_\_\_

Mr. Robert J. Robinson (PREP)

Company \_\_\_\_\_

Marquette University

Address \_\_\_\_\_

Computing Center

Address \_\_\_\_\_

1515 W. Wisconsin Avenue

User Group \_\_\_\_\_

Milwaukee 3, Wisconsin

Code \_\_\_\_\_

THIS REVIEW FORM IS PART OF THE 1620 USER GROUP ORGANIZATION'S PROGRAM REVIEW AND EVALUATION PROCEDURE. NONMEMBERS ARE CORDIALLY INVITED TO PARTICIPATE IN THIS EVALUATION.

*ii*

B B C BASEBALL SIMULATION  
AND DEMONSTRATOR

Paul R. Burgeson  
4257 Oak Knoll Avenue  
Youngstown 12, Ohio

January 29, 1964

PROGRAM ABSTRACT

Title: BBC Baseball Simulation and Demonstrator

Author: Paul R. Burgeson  
4257 Oak Knoll Avenue  
Youngstown 12, Ohio

Date: January 29, 1964

Direct  
Inquiries to: Paul R. Burgeson  
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Youngstown 12, Ohio ST - 2 - 6044

Description /Purpose: This program demonstrates the simulation ability of the 1620 by - quote - playing - unquote - the game of baseball between two all star teams. The machine operator picks the visiting team from a master roster of 90 possible players, the 1620 selects (randomly) the home team from the 81 players left. A complete ball game is then simulated. Two separate random number generators which are initialized at the program start assure a different game each time.

Method: Simulation of the rules of baseball.

Restrictions: The program recognizes only 90 particular player names and records, contained in a master table with the program. Other player names are not acceptable.

Equipment: Basic 20K 1620 with 1622 card reader. No other features are used, although their presence does not inhibit program operation.

Storage: All of 20K memory is used.

Language: This program was coded in machine language. No programming language was employed.

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Table of Contents

<u>Section</u>	<u>Page</u>
Table of Contents	1
Deck Labeling Key	2
Description of BBC-D (Deck 1)	3
Player Roster	4
Input/Output Description	5
Restrictions	5
Error Stops	5
Detailed Operating Instructions	6
Equipment Required	6
Language	6
The Master Roster	7
Sense Switch Usage	8
Miscellaneous	8
Description of BBC-S (Deck 2)	8
BBC-D Sample Problem Detail (4 pages)	9
BBC-S Sample Problem Detail	13
BBC-D Map of Memory (11 pages)	14
BBC-D (Deck 1) listing (5 pages)	25
BBC-S (Deck 2) listing (5 pages)	30

Deck Labeling Key

Deck 1 BBC-D object program in SQUEEZ (file 1. 3. 005) format. Listing of this deck appears on pages 25, 26, 27, 28 and 29 of this report. Card order of the first 13 cards must be preserved, likewise the last 6 cards, card order in between these sections is not important.

Deck 2 BBC-S object program in SQUEEZ (file 1. 3. 005) format. Listing of this deck appears on pages 30, 31, 32, 33 and 34 of this report. Card order of the first 13 cards must be preserved, likewise the last 6 cards, card order in between these sections is not important.

Program Writeup

BBC Baseball Simulation and Demonstrator

January 29, 1964

Paul R. Burgeson  
4257 Oak Knoll Avenue  
Youngstown 12, Ohio      ST - 2 - 6044

Description of BBC-D (Deck 1)

This demonstration program will match operator against machine in picking teams from a master roster in 1620 main memory of 90 all star players. The operator is given first choice to pick the visiting team, the 1620 then selects randomly among the remaining 81 players for the home team lineup. A complete game, including hits, runs, errors, outs, fielders choices, double and triple plays, base stealing, hit by pitchers, sacrifice flies, and other baseball elements is then "played". All output is via the 1620 typewriter, a game taking usually from 7 to 11 minutes to complete.

The model used considers all pitchers equally effective. However, player batting averages and handedness in batting are taken into consideration. All rules of baseball are followed except one, as follows: a home team, scoring and going ahead of a visiting team in the 9th or succeeding innings, will continue to play out the inning, even though the game has been won.

Two separate random number generators, initialized by the operator at program start, effectively prevent the same game, or even close variations, from recurring. The program selects certain digits from the initial type in of date and time of day by the operator to accomplish the initialization. Further initialization is given these generators when the visiting team roster is entered.

Each player in the master roster is represented by his best year in terms of batting average. Consequently, most games are fairly high scoring. Shutouts have occurred, however. In one game Bob Feller pitched a 3 hitter, winning 5-0. He then lost the next game 14-11.

No flow diagram is available for this program. It was coded in machine language early in 1961. This version has been extensively tested over 200 games or so.

Player Roster

The roster of 90 players is contained in memory as a series of 50 digit records beginning in location 13500 and extending to 17999. A record layout looks as follows:

XXXXXXXXXXXX0\*\*\*\*\*YYYY\*\*TTTTTTTT0\*00\*\*AAA\*HH\*\*\*  
for example - Trosky's record in 13500-13549  
6359566252680\*\*\*\*\*1936\*\*43534565450\*00\*\*343\*53\*\*

where the XXXXXX . . . are the player's name in 1620 alpha notation, up to 9 characters in length.

the \* denotes a record mark.

YYYY is the players best year in the major leagues.

TTTTT . . . is the team played with during the best year, up to 7 characters in length, also in 1620 double digit code.

AAA is the players batting average.

HH is the player handedness, in 1620 code. R for right, L for left, and B for both right and left are valid codes.

A 0\* (zero-record mark) must follow each player name, with record marks filling out the space up to the year designator. A 0\* must also follow the team name; either zeros or record marks may be used to fill out this part of the record.

The following procedure may be used to type out the roster:  
(names only)

Reset

Insert

3400000001023913501001001100018000504900000

Release

Start

The program comes to you self contained, with 90 players set up in the master roster all ready to go. (See page 7 for a listing of this roster). The preceding information will be of interest to you only if you desire to insert players of your own choice into the program.

The first 10 players in the roster are assumed by the program to be first basemen, the next 10, second basemen, next third basemen, then shortstops, lift fielders, center fielders, right fielders, catchers, pitchers.

### Input/Output Description

All input is made to this program via the 1620 typewriter. Likewise, all output is typed on the 1620 typewriter.

There are three operator inputs to the program, as follows:

1. After loading, the program types the message "TODAYS DATE IS" and halts, waiting for operator input. At this point, type in the date in any format (or anything else you care to type except record marks, up to 30 characters in length), hit release-start. Your type in will be used to randomize the program.

2. Next the program will type the message "THE TIME IS" and halt again. Follow the same procedure as in 1. above.

3. After typing headings, the 1620 will return the typewriter carriage and halt waiting for you to choose your leadoff batter. Type his name, up to 9 characters in length, release-start. If his name appears in the master roster, his record will follow, typed by the program, otherwise the message "NON-VALID PLAYER. RETRY." will appear and you must try again. Once the leadoff batter is chosen, choose the other eight players of the visiting team in lineup order in the same fashion. After the last visiting team player is chosen, the 1620 takes over, selects the home team and plays the game.

### Restrictions

Operator type in of the date and time of day in 1. and 2. above may be in any format, any characters, except record marks, up to 30 characters in length. Violation of either of these restrictions will partially destroy the program.

Operator type in of player name is similarly limited. No record marks, not more than 9 characters.

### Error Stops

If a non-feasible player is selected by the operator, the program asks again for that player name. Only player names appearing in the master roster may be used. There are no other stops within the program. At the game's conclusion sense switch 3 determines if a new set of teams is to be entered (on) or if a second game between the same teams is to be played (off).

### DETAILED OPERATING INSTRUCTIONS

The program as provided is self-loading and begins execution immediately after loading is completed.

1. Set two tab stops at positions 15 and 35 away from the left-hand margin of the typewriter.
2. Depress "instant stop."
3. Depress "reset."
4. Place the program deck in the 1622 reader.
5. Set sense switches 1, 2 and 4 off, switch 3 on.
6. Set overflow switch to program, other switches to stop.
7. Depress "load" on the 1622 card reader.
8. The program deck is followed by two extra cards so the program will now load and begin execution without further operator intervention.
9. When the message "TODAY'S DATE IS" appears, type the date in any format, up to 30 characters, no record mark. Then depress "release" and "start."
10. When the message "THE TIME IS" appears, type the time in any format, up to 30 characters, no record mark. Then again depress "release" and "start."
11. The 1620 will type page headings, then halt for you to type in a player name. Type a name acceptable to the master roster, up to 9 characters, "release" and "start."
12. Continue as in the second part of Step 11, until 9 player names have been accepted by the 1620. The program then runs to completion without operator intervention.

Equipment Required: Basic 1620/1622. No extra features.

Language: This program was written in machine language.

The Master Roster

Following are the players included in the master roster:

## First Base

Trosky	Benson	Gehrig	Terry	Sisler
Foxx	Mize	Anson	York	Brouthers

## Second Base

Lajoie	C. Burg	Gordon	Frisch	Gehringer
E. Collins	Mack Lazzeri		Hornsby	Robinson

## Third Base

Keltner	J. Burg	Hack	Traynor	McGraw
J. Collins	Baker	Groh	Kell	Kamm

## Shortstop

Boudreau	Crosetti	Tumblin	Wagner	Vaughan
Sewell	Cronin	Jennings	Appling	Travis

## Left Field

P. Waner	Medwick	Simmons	Duffy	Wheat
Radcliff	Ruth	Heilmann	Musial	Williams

## Center Field

Dimaggio	Keller	Speaker	Cobb	Henrich
Reiser	Averill	Jackson	Rice	O'Rourke

## Right Field

L Waner	Herman	Hamilton	O Doul	Cuyler
Burkett	Crawford	Greenberg	Delahanty	Ott

## Catcher

Hayes	Danning	Hartnett	M. Burg	Hegan
Cochrane	Dickey	Berra	Lombardi	Kelly

## Pitcher

Radbourne	Feller	D. Dean	Newhouser	Hubbell
Grove	Spahn	Young	Johnson	Ruffing

### Sense Switch Usage

1 normally off. On to by-pass typing of base runner positions after a play.

2 normally off. On to force a hit by the current batter.

3 normally on. Off to continue after a game with the same line-ups for another game.

4 normally off. On to prevent a hit by the current batter. Switch 2 takes precedence over Switch 4.

### Miscellaneous

The program start is location 02326.

To play a game with the current teams, program start is location 04490.

To pre-select both teams, stop the machine after the visiting team has been chosen. Insert into locations 01937 - 01981 a series of 9 flagged 5-digit numbers, each number being the location of the player's record in memory that you wish on the home team. Player 1 is 13500, player 2 is 13550 and so on to player 90 which is 18950. After the home team is selected in this way, branch to 04490.

### Description of BBC-S (Deck 2)

BBC-S was prepared from BBC-D by elimination of all output typing commands except those controlled by sense switch 1, extra inning markers, and end of game totals. In this way the program becomes a rather swift simulator program. A typical game takes from 11 to 15 seconds, including end of game totals.

Operating instructions are the same as BBC-D. Sense switch 1 must be on, 3 must be off to cycle a number of games without operator intervention.

BBC-D Sample Problem Detail

TODAYS DATE IS JAN 8 1963 A. D. RS

THE TIME IS 7:31 P MRS

ENTER YOUR LINEUP BELOW

VISITORS

NAME	TEAM	AVG	BATS
FOXXS	1B 1932 ATHLETI	.364	R
GORDONIS	2B 1932 YANKS	.322	R
MARISMS			

NON-VALID PLAYER. RETRY.

WAGNER	SS 1930 PITTSBU	.381	R
DIMAGGIO	CF 1931 YANKS	.357	R
WILLIAMS	LF 1931 RED SOX	.405	L
KELTNERIS	3B 1932 CLEVE	.325	R
CORBS	CF 1931 DETROIT	.320	L
HEGANIS	C 1931 CLEVE	.219	R
RADBOURNERS	P 1891 PROVIDE	.250	R

HOME TEAM

NAME	TEAM	AVG	BATS
GEHRIG	1B 1930 YANKS	.379	L
E COLLINS	2B 1920 W SOX	.369	L
BAKER	3B 1912 ATHLETI	.347	L
TUMBLIN	SS 1934 CHICAGO	.599	R
HEILMANN	LF 1923 DETROIT	.403	R
KEELER	CF 1897 BALTIMO	.332	L
O DOUL	RF 1929 PHILS	.398	L
DICKEY	C 1936 YANKS	.352	L
YOUNG	P 1892 CLEVE	.250	R

FOXX UP GROUNDER TO SECOND  
GORDON UP GROUNDER TO THIRD  
WAGNER UP GROUNDER TO SHORT

0 RUNS 0 HITS 0 ERRORS

GEHRIG UP ERROR AT FIRST  
E COLLINS UP SMASH OVER L F WALL TWO RUNS SCORE  
BAKER UP GROUNDER TO THIRD  
TUMBLIN UP GROUNDER TO SHORT  
HEILMANN UP SINGLE TO L CENTR  
KEELER UP LONG FLY TO R CENTR

2 RUNS 2 HITS 1 ERRORS

END OF 1 SCORE 0 2

page 9

Note: Operator input is circled. All other typing was produced by the program.

page 10

DIMAGGIO UP SINGLE TO LEFT  
WILLIAMS UP STRUCK OUT SWINGING  
KELTNER UP GROUNDER TO SHORT BATTER SAFE AT FIRST RUNNER OUT AT SECOND  
COBB UP SINGLE TO L CENTR RUNNERS ON 1ST AND 2ND  
HEGAN UP FLY BALL TO CENTER

0 RUNS 2 HITS 0 ERRORS

O DOUL UP LINE DRIVE TO SHORT  
DICKEY UP LINE DRIVE TO FIRST  
YOUNG UP GROUNDER TO THIRD

0 RUNS 0 HITS 0 ERRORS

END OF INNING 2 SCORE 0 2

RADBOURNE UP TEXAS LEAGER DOUBLE TO R CENTR  
FOXX UP SINGLE TO LEFT RUNNERS ON 1ST AND 3RD  
GORDON UP SINGLE TO LEFT RUNNER SCORES RUNNERS ON 1ST AND 2ND  
WAGNER UP SINGLE TO RIGHT BASES LOADED  
DIMAGGIO UP FOUL OUT TO CATCHER  
WILLIAMS UP STRUCK OUT CALLED  
KELTNER UP STRUCK OUT CALLED

1 RUNS 4 HITS 0 ERRORS

GEHRIG UP STRUCK OUT SWINGING  
E COLLINS UP GROUNDER TO SHORT  
BAKER UP BASE AKEN - HIT BY PITCHER  
TUMBLIN UP ERROR AT THIRD RUNNERS ON 1ST AND 2ND  
HEILMANN UP STRUCK OUT SWINGING

0 RUNS 0 HITS 1 ERRORS

END OF 3 SCORE 1 2

COBB UP SINGLE TO R CENTR  
HEGAN UP STRUCK OUT SWINGING  
RADBOURNE UP RUNNER OUT STEALING SECOND  
SINGLE OVER THIRD  
FOXX UP RUNNER STEALS SECOND  
SINGLE TO RIGHT RUNNERS ON 1ST AND 3RD  
GORDON UP GROUNDER TO SECOND

0 RUNS 3 HITS 0 ERRORS

KEELER UP POP FLY TO PITCHER  
O DOUL UP TRIPLE TO CENTER RUNNER ON 3RD  
DICKEY UP LONG FLY TO L CENTR RUNNER SCORES BASES EMPTY  
YOUNG UP TEXAS LEAGER DOUBLE TO L CENTR  
GEHRIG UP INF. HIT TO SECOND  
E COLLINS UP TRIPLE TO L CENTR TWO RUNS SCORE RUNNER ON 3RD  
BAKER UP DOUBLE TO LEFT RUNNER SCORES  
TUMBLIN UP SINGLE OVER 2ND RUNNERS ON 1ST AND 3RD  
HEILMANN UP ERROR AT THIRD RUNNER SCORES RUNNERS ON 1ST AND 2ND  
KEELER UP SINGLE OVER FIRST RUNNER SCORES RUNNERS ON 1ST AND 3RD  
O DOUL UP GROUNDER TO THIRD

6 RUNS 7 HITS 1 ERRORS

END OF INNING 4 SCORE 1 8

1 of 4

2 of 4

WAGNER UP TEXAS LEAGER DOUBLE TO RIGHT  
DIMAGGIO UP SINGLE OVER FIRST RUNNER SCORES  
WILLIAMS UP GROUNDER TO THIRD BATTER SAFE AT FIRST RUNNER OUT AT SECOND  
KELTNER UP RUNNER STEALS SECOND  
STRUCK OUT SWINGING  
COBB UP STRUCK OUT SWINGING

1 RUNS 2 HITS 0 ERRORS

DICKEY UP SINGLE TO LEFT  
YOUNG UP GROUNDER TO SHORT RUNNER ON 2ND  
GEHRIG UP SINGLE TO R CENTR RUNNERS ON 1ST AND 3RD  
E COLLINS UP GROUNDER TO FIRST DOUBLE PLAY

0 RUNS 2 HITS 0 ERRORS

END OF 5 SCORE 2 8

HEGAN UP LONG FLY TO R CENTR  
RADBOURNE UP ERROR ON SHORTSTOP  
FOXX UP RUNNER OUT STEALING SECOND  
GROUNDER TO PITCHER

0 RUNS 0 HITS 1 ERRORS

BAKER UP FLY BALL TO R CENTR  
TUMBLIN UP LONG FLY TO R CENTR  
HEILMANN UP LINE DRIVE TO FIRST

0 RUNS 0 HITS 0 ERRORS

END OF INNING 6 SCORE 2 8

GORDON UP SINGLE OVER 2ND  
WAGNER UP SINGLE TO LEFT RUNNERS ON 1ST AND 2ND  
DIMAGGIO UP LONG FLY TO L CENTR RUNNERS ON 1ST AND 3RD  
WILLIAMS UP STRUCK OUT SWINGING  
KELTNER UP GROUNDER TO SECOND

0 RUNS 2 HITS 0 ERRORS

KEELER UP STRUCK OUT SWINGING  
O DOL UP LONG FLY TO L CENTR  
DICKEY UP LINE DRIVE TO SHORT

0 RUNS 0 HITS 0 ERRORS

END OF 7 SCORE 2 8

COBB UP SINGLE TO RIGHT  
HEGAN UP GROUNDER TO SHORT BATTER SAFE AT FIRST RUNNER OUT AT SECOND  
RADBOURNE UP LONG FLY TO R CENTR  
FOXX UP SINGLE OVER FIRST RUNNERS ON 1ST AND 3RD  
GORDON UP SINGLE OVER FIRST RUNNER SCORES RUNNERS ON 1ST AND 2ND  
WAGNER UP GROUNDER TO FIRST

1 RUNS 3 HITS 0 ERRORS

YOUNG UP LINE DRIVE TO SHORT  
GEHRIG UP STRUCK OUT CALLED  
E COLLINS UP LONG FLY TO L CENTR

0 RUNS 0 HITS 0 ERRORS

END OF 8 SCORE 3 8

page 11

DIMAGGIO UP POP FLY TO FIRST  
WILLIAMS UP SINGLE TO CENTER  
KELTNER UP RUNNER STEALS SECOND  
STRUCK OUT SWINGING  
COBB UP LONG FLY TO L CENTR

0 RUNS 1 HITS 0 ERRORS

page 12

GAME COMPLETED. TOTALS

VISITORS	03	17	03
HOMETEAM	08	11	01

This concludes the sample problem  
detail of deck 1, BEC-D.

3 of 4

4 of 4

### BBC-S Sample Problem Detail

page 13

TODAYS DATE IS JAN 8 1963 STILL

THE TIME IS LATER THAN IT WAS

**ENTER YOUR LINEUP BELOW VISITORS NAME**

360103700100  
1-20442005

T3500T3500T3500T3500T3500T3500T3500T3500T3500R

VISITORS 03 11 02  
HOME TEAM 14 19 01

VISITORS 13 17 00  
HOMETEAM 05 15 02

VISITORS                    00 08 02  
HOMETEAM                06 12 01

VISITORS 14 21 02  
HOMETEAM 02 06 02

VISITORS 02 14 02  
HOMETEAM 03 12 02

VISITORS 12 22 00  
HOMETEAM 03 15 02

VISITORS 12 17 03  
HOMETEAM 11 18 03

VISITORS 03 02 01  
HOMETEAM 10 13 00

VISITORS 03 15 00  
HOMETEAM 07 14 03

VISITORS 02 04 01  
HOMETEAM 04 13 00

VISITORS	12	16	03
HOMETEAM	13	22	02

VISITORS 10 14 01  
HOMETEAM 05 12 04

Note: Initial operator input is circled. After the message "HOME TFAM" above was typed, the machine was stopped, a team of all Trotsky's inserted, (Trotsky's record begins in location 13500), and play started. See detail on page 8 under the section called miscellaneous.

Note: In this simulation run of 13 games, the "Keltner" team won 8 games to 5 for the "Trosky" team. The "Troskys" however outhit the "Keltners" 179-176. A longer simulation run, usually at least 200 to 400 games, is needed to establish any sort of numerical comparison.

## BBC-D Map of Memory

page 14

1 of 11

START DUMP AT 02012  
END AT 10000

page 15

02012 T5 15074 15071  
02024 42 01 72 42 02 73 42 03 62 62 04 53 46 05 43  
02064 46 06 59 46 07 43 00 08 57 00 09 01 51 97  
02100 11 02099 00047 26 02135 02099 26 00031 T5197 42  
02138 01 51 94  
02144 11 02143 00044 26 02179 02143 26 01759 T5194 42  
02182 01 51 51  
02188 11 02187 00001 26 02218 02187 39 T5151 00100  
02224 42 82  
02228 13 02227 00010 11 00099 T1509 26 02275 00099 26 00079 T2329  
02276 32 00072 00000 32 00074 00000 32 00076 00000 32 00078 00000  
02324 42  
02326 17 01772 00006 39 00833 00100 37 00031 00100 25 00419 00031  
02374 25 00477 00033 25 00417 00035 25 00475 00037 25 00415 00039  
02422 25 00473 00041 32 00033 00000 27 00422 00421 27 00480 00479  
02470 12 00034 00001 43 02446 00034 17 01772 00002 39 01163 00100  
02518 37 00031 00100 25 00414 00031 25 00472 00033 17 01772 00005  
02566 39 01557 00100 17 01772 00003 39 00763 00100 17 01772 00002  
02614 39 00703 00100 34 00000 00108 17 01832 00003 39 00713 00100  
02662 34 00000 00108 39 00723 00100 34 00000 00101 39 00731 00100  
02710 34 00000 00102 16 01984 00000 34 00000 00102 26 00049 02011  
02758 37 00031 00100 32 00030 00000 25 00475 00035 27 00480 00479  
02806 25 00416 00037 27 00422 00421 16 02865 00049 16 02909 T3519  
02854 43 02898 00037 12 02865 00002 12 02909 00002 49 02854 0  
02898 45 02990 T6150 11 02909 00050 14 02909 T8000 47 02898 01100  
02946 17 01772 00002 39 01619 00100 34 00000 00102 49 02734 0  
02990 26 03020 02909 26 03025 02865 24 T6157 00037 47 02910 01200  
03038 34 00000 00108 26 00099 02909 12 00099 T3500 26 02016 00099  
03086 13 02016 00002 32 00095 00000 26 02016 00096 13 02016 00008  
03134 16 03164 02023 21 03164 00099 39 02063 00100 27 00480 00479  
03182 27 00422 00421 34 00000 00101 32 02908 00000 49 11200 0  
03226 00 00  
03230 26 03260 02909 11 03260 00020 38 T6170 00100 34 00000 00101  
03278 26 03308 02909 11 03308 00027 39 T6177 00100 34 00000 00108  
03326 26 03368 02909 11 03368 00042 39 01989 00100 38 T6192 00100  
03374 17 01832 00002 26 03416 02909 11 03416 00047 39 T6197 00100  
03422 13 01984 00005 16 03500 01895 21 03500 00099 26 03505 02909  
03470 15 03505 00000 41 03504 00000 16 01935 T6150 11 01984 00001  
03518 14 01984 00009 47 02734 01200 17 01772 00004 16 01984 00000  
03566 39 00753 00100 34 00000 00101 39 00713 00100 17 01772 00002  
03614 39 00703 00100 34 00000 00108 17 01832 00003 39 00713 00100  
03662 34 00000 00108 39 00723 00100 34 00000 00101 39 00731 00100  
03710 34 00000 00102 16 02016 03500 13 01984 00500 21 02016 00099  
03758 27 00422 00421 14 00091 00001 46 03722 01300 26 02021 00091  
03806 13 02021 00050 21 02016 00099 24 02016 01895 46 03722 01200  
03854 24 02016 01900 46 03722 01200 24 02016 01905 46 03722 01200  
03902 24 02016 01910 46 03722 01200 24 02016 01915 46 03722 01200  
03950 24 02016 01920 46 03722 01200 24 02016 01925 46 03722 01200  
03998 24 02016 01930 46 03722 01200 24 02016 01935 46 03722 01200  
04046 16 04088 01941 13 01984 00005 21 04088 00099 26 01981 02016  
04094 34 00000 00102 27 02188 02016 34 00000 00108 26 00099 02016  
04142 12 00099 T3500 26 02021 00099 13 02021 00002 32 00095 00000  
04190 26 01986 00096 13 01986 00008 16 04244 02023 21 04244 00099  
04238 39 02087 00100 17 01832 00002 26 04292 02016 11 04292 00020

page 16

04286 38 T7670 00100 34 00000 00101 26 04340 02016 11 04340 00027  
04334 39 T7677 00100 34 00000 00108 26 04400 02016 11 04400 00042  
04382 39 01989 00100 38 T7692 00100 26 04448 02016 11 04448 00047  
04430 17 01832 00002 39 T7697 00100 11 01984 00001 14 01984 00009  
04478 47 03722 01200 17 01772 00005 16 01716 00000 16 01720 00000  
04526 16 01733 00000 16 01737 00000 16 01741 00000 16 01745 00000  
04574 16 01749 00000 27 02100 01935 26 01752 00031 27 02100 01981  
04622 26 01754 00031 11 01716 00001 14 01716 00010 47 04942 01300  
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2 of 11

3 of 11

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4 of 11

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5 of 11

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END AT 19999

page 19

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page 20

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7 of 11

6 of 11

page 2

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page 23

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page 24

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11 of 11

BBC 20K Prog. Deck listing, page 1/5 (Deck 1)

page 25

page 26

BBC 20K Prog. Deck listing, page 2/5

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page 29

BBC 20K Prog. Deck listing, page 5/5

LAST CARD OF THE 20K BASEBALL DEMO

# LAST CARD OF THE ZUR BASEBALL DEMO

BBC-S Prog. Deck listing, page 1/5 (Deck 2)

Page 30

page 31

BBC-S Prog. Deck listing, page 2/5

BBC-S Prog. Deck listing, page 3/5

page 32

BBC-S Prog. Deck listing, page 4/5

page 33

BBC-S Prog. Deck listing, page 5/5

NEXT TO THE LAST CARD OF THE 20K BASEBALL NO TYPE-OUT DEMO  
LAST CARD OF THE 20K BASEBALL NO TYPE-OUT DEMO

This is the last page  
of the baseball writeup