This is a photocopy of the documentation of BBC, a baseball simulator that runs on the IBM 1620 computer. John W. Burgeson, an IBM Applied Science Rep in Akron, Ohio, developed it in 1960-61. The earliest successful run of this program was, according to notes, on 1/3/61. John submitted it to the IBM 1620 program library where various versions of it existed as late as 1967. This paper is dated September 1961. In the fall of 1961, Rege Cordic, then a KDKA Pittsburgh radio executive, produced a short running radio show based on the simulator's output.

John’s brother, Paul R. Burgeson, served as a “debugger” on the project and offered many design ideas. He was the one who urged the development of the program and without his able assistance, it would not have ever been completed.
ABSTRACT PAGE

BBC V1K
THE BASEBALL DEMONSTRATOR

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Subject Class: 11.0

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Purpose: To demonstrate the capabilities of the 1620 as a simulator by "playing" a game of baseball.

Storage: All of storage is used.

Equipment: 20K memory card 1620. (A tape version V1K is also available from the author.) No special features required.

Language: SPS with patches.
BBC VIK PROGRAM DESCRIPTION

This demonstration program will match operator vs machine in picking teams from a master roster (in 1620 memory) of 90 all-star players. Operator picks visiting team, the machine then selects (randomly) the home team. A complete game is then "played." Running time is from 7 to 11 minutes per game. The batting average and handedness of the batter is taken into account in playing the game. All pitchers are considered equally effective.

Two separate random number generators built into the program effectively prevent the same game - or even close variations - from recurring. These generators are altered each time the program is loaded by the operator typing the date and time of day into memory, the program selecting certain digits from this type in.

Because of the high averages of the all-stars on the roster (each player is represented by his best year average-wise), most games are high scoring. However, shoutouts have occurred. In one game Bob Feller pitched a 3 hitter, winning 5-0. He then lost the next game 14-11.

No flow chart or listing is available for this program. An 80-80 listing of the program deck gives a map of memory from 00160 to 19999.

The game has been tested over about 50 games so far, about 10 games since the last patches were made. No apparent errors exist. This version VIK adds base stealing, hit by pitcher, and a more realistic base running situation to the first early tape BBC version.

Input/Output/Operating

To run BBC VIK, push reset, put program deck in read hopper - push load. During loading a message will be typed out indicating the version of BBC being used.

After completion of loading the typewriter will carriage return several times and type out "TODAY'S DATE IS" and wait for the operator to type in the date or any other garbage he may want to type in up to 30 characters. Release - start - the message "THE TIME IS" appears. Same procedure, then the typewriter will prepare headings for the visitors roster. Tab stops of approximately 40 and 70 are convenient here. (Margin at 20).

When the typewriter stops, the operator types in the last name of his lead-off batter - release start. If he is one of the 90 - his record will appear. Otherwise the operator will be asked to make another choice. After nine players have been entered, the 1620 program completes the job, selecting the home team and playing the game.
At the conclusion of the game, after the game totals are typed, sense switch 3 determines whether the same two teams will play another game (off) or if the operator will enter a new visiting team lineup (on).

Sense Switch 1 on will inhibit some type out of where runners are on the bases.

Sense Switch 2 on will force a hit by the current batter.

Sense Switch 4 on will force a non-hit by the current batter unless switch 2 is on.

All output is typewritten. There are no stops in the program.

Roster of Players

The roster of 90 players begins in location 13500 and extends to 17399. To print this roster, load the program, put the following routine in Insert and Start:

```
34 00000 00102
39 13501 00100
11 00018 00050
49 00000
```

The program begins in 02325 if you wish to enter new teams; 04490 to play a game with the current teams.

To pre-select both teams, stop the machine after the visiting team has been selected. 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 to play on the home team. To determine this location - type the roster (as above). Player #1 is location 13500, #2 is 13550, and so on to 13950 for player #90. When the home team roster is entered in this manner, branch to 04490.

J. W. Burgeson
P. R. Burgeson

JWB:PRB:css
Enter your lineup below.

**Visitors**

<table>
<thead>
<tr>
<th>Name</th>
<th>Team</th>
<th>AVG</th>
<th>Bats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruth</td>
<td>LF 1923 Yanks</td>
<td>.393</td>
<td>L</td>
</tr>
<tr>
<td>Crosetti</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Non-Valid Player. Retry.

- Crosetti SS 1936 Yanks .288 R
- Hegan C 1947 Cleve .249 R
- Trosky 1B 1936 Cleve .343 L
- Gordon 2B 1942 Yanks .322 R
- Wagner SS 1900 Pittsbu .381 R
- Williams LF 1941 Red Sox .306 L
- Speaker CF 1925 Cleve .389 L
- Grove P 1931 Athleti .250 L

**Home Team**

<table>
<thead>
<tr>
<th>Name</th>
<th>Team</th>
<th>AVG</th>
<th>Bats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broughters</td>
<td>1B 1887 Detroit</td>
<td>.519</td>
<td>L</td>
</tr>
<tr>
<td>Hornsby</td>
<td>2B 1924 Cards</td>
<td>.424</td>
<td>R</td>
</tr>
<tr>
<td>Kimm</td>
<td>3B 1928 W Sox</td>
<td>.308</td>
<td>R</td>
</tr>
<tr>
<td>Travis</td>
<td>SS 1941 Washington</td>
<td>.259</td>
<td>L</td>
</tr>
<tr>
<td>Medwick</td>
<td>LF 1937 Cards</td>
<td>.374</td>
<td>R</td>
</tr>
<tr>
<td>Averill</td>
<td>CF 1936 Cleve</td>
<td>.378</td>
<td>L</td>
</tr>
<tr>
<td>Hamilton</td>
<td>RF 1894 Phils</td>
<td>.396</td>
<td>R</td>
</tr>
<tr>
<td>Hartnett</td>
<td>C 1937 Cubs</td>
<td>.354</td>
<td>R</td>
</tr>
<tr>
<td>Radbourne</td>
<td>P 1884 Provide</td>
<td>.250</td>
<td>R</td>
</tr>
</tbody>
</table>

Ruth up, Struck out swinging.
Crosetti up, Single to right.
HEGAN UP STRUK OUT CALLED
TROSKY UP RUNNER OUT STEALING SECOND
0 RUNS 1 HITS 0 ERRORS
BROTHEERS UP STRUK OUT SWINGING
HORNSBY UP GROUNDER TO FIRST
KAMM UP GROUNDER TO THIRD
0 RUNS 0 HITS 0 ERRORS
END OF 1 SCORE 0 0

TROSKY UP STRUK OUT SWINGING
GORDON UP LINE DRIVE TO SHORT
WAGNER UP BASE ON BALLS
WILLIAMS UP TEXAS LEAGUE SINGLE TO CENTER RUNNERS ON 1ST AND 3RD
SPEAKER UP STRUK OUT SWINGING
0 RUNS 1 HITS 0 ERRORS
TRAVIS UP DOUBLE TO RIGHT
MEDWICK UP STRUK OUT SWINGING
AVERILL UP LONG FLY TO L CENTR RUNNER ON 3RD
HAMILTON UP GROUNDER TO PITCHER
0 RUNS 1 HITS 0 ERRORS
END OF 2 SCORE 0 0

GROVE UP STRUK OUT SWINGING
RUTH UP GROUNDER TO SECOND
CROSETTI UP LINE DRIVE TO SHORT
0 RUNS 0 HITS 0 ERRORS
HARTNETT UP FLY BALL TO R CENTR
RADBOURNE UP FLY BALL TO R CENTR
BROTHEERS UP LINE DRIVE TO THIRD
0 RUNS 0 HITS 0 ERRORS
END OF INNING 3 SCORE 0 0

HEGAN UP GROUNDER TO SHORT
TROSKY UP LONG FLY TO L CENTR
GORDON UP GROUNDER TO SHORT
0 RUNS 0 HITS 0 ERRORS
HORNSBY UP GROUNDER TO SHORT
KAMM UP STRUK OUT SWINGING
TRAVIS UP LONG FLY TO CENTER
0 RUNS 0 HITS 0 ERRORS
END OF INNING 4 SCORE 0 0
WAGNER UP LINE DRIVE TO SHORT
WILLIAMS UP SINGLE TO RIGHT
SPEAKER UP LINE DRIVE TO FIRST DOUBLE PLAY
0 RUNS 1 HITS 0 ERRORS

MEDWICK UP SINGLE TO LEFT
AVERILL UP FLY BALL TO R CENTR
HAMILTON UP INF, HIT TO SHORT
HARTNETT UP LONG FLY TO CENTER RUNNERS ON 1ST AND 3RD
RADBOURNE UP LONG FLY TO R CENTR
0 RUNS 2 HITS 0 ERRORS

END OF INNING 5 SCORE 0 0

GROVE UP DOUBLE TO R CENTR
RUTH UP SINGLE OVER FIRST RUNNERS ON 1ST AND 3RD
CROSETTI UP GROUNDER TO SHORT BATTER SAFE AT FIRST RUNNER OUT AT HOME RUNNER ON 1ST AND 2ND
HEGAN UP GROUNDER TO THIRD DOUBLE PLAY
0 RUNS 2 HITS 0 ERRORS

BROUGHTERS UP LONG FLY TO LEFT
HORNBY UP GROUNDER TO PITCHER
KAMP UP LONG FLY TO R CENTR
0 RUNS 0 HITS 0 ERRORS

END OF 6 SCORE 0 0

TROSKY UP ERROR AT SECOND
GORDON UP GROUNDER TO THIRD RUNNER ON 2ND
WAGNER UP FOUL OUT TO RIGHT
WILLIAMS UP POP FLY TO FIRST
0 RUNS 0 HITS 1 ERRORS

TRAVIS UP STRUCK OUT SWINGING
MEDWICK UP STRUCK OUT SWINGING
AVERILL UP SINGLE TO L CENTR
HAMILTON UP RUNNER STEALS SECOND FOUL OUT TO SHORT
0 RUNS 1 HITS 0 ERRORS

END OF 7 SCORE 0 0

SPEAKER UP STRUCK OUT SWINGING
GROVE UP STRUCK OUT SWINGING
RUTH UP SINGLE OVER THIRD
CROSETTI UP SINGLE TO R CENTR RUNNERS ON 1ST AND 2ND
HEGAN UP GROUNDER TO SHORT
0 RUNS 2 HITS 0 ERRORS

HARTNETT UP STRUCK OUT CALLED
RADBOURNE UP STRUCK OUT SWINGING
BROUGHTERS UP SINGLE OVER 2ND
Hornsbys Up Short Fly to Right
0 Runs 1 Hits 0 Errors

End of Inning 8 Score 0 0

Troisky Up Homer to Right
Gordon Up Grounder to Pitcher
Wagner Up Double to Center
Williams Up Double to R Centr Runner Scores
Speaker Up Short Fly to Left
Grove Up Grounder to Third
2 Runs 3 Hits 0 Errors

Kamm Up Long Fly to R Centr
Travis Up Inf. Hit to Third
Medwick Up Runner Steals Second
Line Drive to Pitcher Double Play
0 Runs 1 Hits 0 Errors

End of 9 Score 2 0

Game Completed. Totals

Visitors 02 10 00
Hometeam 00 06 01