Supplemental Arrows-B
Range: 2900–297F

This file contains an excerpt from the character code tables and list of character names for
The Unicode Standard, Version 7.0

This file may be changed at any time without notice to reflect errata or other updates to the Unicode Standard.
See http://www.unicode.org/errata/ for an up-to-date list of errata.

See http://www.unicode.org/charts/ for access to a complete list of the latest character code charts.
See http://www.unicode.org/charts/PDF/Unicode-7.0/ for charts showing only the characters added in Unicode 7.0.
See http://www.unicode.org/Public/7.0.0/charts/ for a complete archived file of character code charts for Unicode 7.0.

Disclaimer
These charts are provided as the online reference to the character contents of the Unicode Standard, Version 7.0 but do not provide all the information needed to fully support individual scripts using the Unicode Standard. For a complete understanding of the use of the characters contained in this file, please consult the appropriate sections of The Unicode Standard, Version 7.0, online at http://www.unicode.org/versions/Unicode7.0.0/, as well as Unicode Standard Annexes #9, #11, #14, #15, #24, #29, #31, #34, #38, #41, #42, #44, and #45, the other Unicode Technical Reports and Standards, and the Unicode Character Database, which are available online.

See http://www.unicode.org/ucd/ and http://www.unicode.org/reports/

A thorough understanding of the information contained in these additional sources is required for a successful implementation.

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### Miscellaneous arrows

**2900** ↔ RIGHTWARDS TWO-HEADED ARROW WITH VERTICAL STROKE
  - = z notation partial surjection
  - → 2B34 ↔ leftwards two-headed arrow with vertical stroke

**2901** ↔ RIGHTWARDS TWO-HEADED ARROW WITH DOUBLE VERTICAL STROKE
  - = z notation finite surjection
  - → 2B35 ↔ leftwards two-headed arrow with double vertical stroke

**2902** ⇄ LEFTWARDS DOUBLE ARROW WITH VERTICAL STROKE

**2903** ⇄ RIGHTWARDS DOUBLE ARROW WITH VERTICAL STROKE

**2904** ⇄ LEFT RIGHT DOUBLE ARROW WITH VERTICAL STROKE

**2905** ↔ RIGHTWARDS TWO-HEADED ARROW FROM BAR
  - = maps to
  - → 2B36 ↔ leftwards two-headed arrow from bar

**2906** ⇄ LEFTWARDS DOUBLE ARROW FROM BAR
  - = maps from
  - → 2F7B ⇄ long leftwards arrow from bar

**2907** ⇒ RIGHTWARDS DOUBLE ARROW FROM BAR
  - = maps to
  - → 27FC ⇒ long rightwards arrow from bar

**2908** ↓ DOWNWARDS ARROW WITH HORIZONTAL STROKE

**2909** ↑ UPWARDS ARROW WITH HORIZONTAL STROKE

**290A** ↑ UPWARDS TRIPLE ARROW
  - → 21D1 ↑ upwards double arrow
  - → 27F0 ↑↑ upwards quadruple arrow

**290B** ↓ DOWNWARDS TRIPLE ARROW
  - → 21D3 ↓ downwards double arrow
  - → 27F1 ↓↓ downwards quadruple arrow

**290C** ↔ LEFTWARDS DOUBLE DASH ARROW

**290D** ↔ RIGHTWARDS DOUBLE DASH ARROW

**290E** ↔ LEFTWARDS TRIPLE DASH ARROW

**290F** ↔ RIGHTWARDS TRIPLE DASH ARROW

**2910** ↔ RIGHTWARDS TWO-HEADED TRIPLE DASH ARROW
  - → 2B37 ↔ leftwards two-headed triple dash arrow

**2911** ↔ RIGHTWARDS ARROW WITH DOTTED STEM
  - → 2B38 ↔ leftwards arrow with dotted stem

**2912** ↑ UPWARDS ARROW TO BAR

**2913** ↓ DOWNWARDS ARROW TO BAR

**2914** ⇒ RIGHTWARDS ARROW WITH TAIL WITH VERTICAL STROKE
  - = z notation partial injection
  - → 2B39 ⇒ leftwards arrow with tail with vertical stroke

**2915** ⇒ RIGHTWARDS ARROW WITH TAIL WITH DOUBLE VERTICAL STROKE
  - = z notation finite injection
  - → 2B3A ⇒ leftwards arrow with tail with double vertical stroke

**2916** ⇒ RIGHTWARDS TWO-HEADED ARROW WITH TAIL
  - = bijective mapping
  - = z notation bijection
  - → 2B3B ⇒ leftwards two-headed arrow with tail

**2917** ⇒ RIGHTWARDS TWO-HEADED ARROW WITH TAIL WITH VERTICAL STROKE
  - = z notation surjective injection
  - → 2B3C ⇒ leftwards two-headed arrow with tail with vertical stroke

**2918** ⇒ RIGHTWARDS TWO-HEADED ARROW WITH TAIL WITH DOUBLE VERTICAL STROKE
  - = z notation finite surjective injection
  - → 2B3D ⇒ leftwards two-headed arrow with tail with double vertical stroke

### Arrow tails

**2919** ← LEFTWARDS ARROW-TAIL

**291A** ← RIGHTWARDS ARROW-TAIL

**291B** ← LEFTWARDS DOUBLE ARROW-TAIL

**291C** ← RIGHTWARDS DOUBLE ARROW-TAIL

### Miscellaneous arrows

**291D** ← LEFTWARDS ARROW TO BLACK DIAMOND

**291E** ← RIGHTWARDS ARROW TO BLACK DIAMOND

**291F** ← LEFTWARDS ARROW FROM BAR TO BLACK DIAMOND

**2920** ⇒ RIGHTWARDS ARROW FROM BAR TO BLACK DIAMOND

**2921** ↘ NORTH WEST AND SOUTH EAST ARROW

**2922** ↗ NORTH EAST AND SOUTH WEST ARROW

**2923** ↘ NORTH WEST ARROW HOOK

**2924** ↗ NORTH EAST ARROW HOOK

**2925** ↘ SOUTH EAST ARROW HOOK

**2926** ↗ SOUTH WEST ARROW HOOK

### Crossing arrows for knot theory

**2927** ↘ NORTH WEST ARROW AND NORTH EAST ARROW

**2928** ↗ NORTH EAST ARROW AND SOUTH EAST ARROW

**2929** ↘ SOUTH EAST ARROW AND SOUTH WEST ARROW

**292A** ↗ SOUTH WEST ARROW AND NORTH WEST ARROW

**292B** ↘ RISING DIAGONAL CROSSING FALLING DIAGONAL

**292C** ↗ FALLING DIAGONAL CROSSING RISING DIAGONAL
  - → 26CC ↘ crossing lanes

**292D** ↘ SOUTH WEST ARROW CROSSING NORTH EAST ARROW

**292E** ↗ NORTH EAST ARROW CROSSING SOUTH EAST ARROW

**292F** ↘ FALLING DIAGONAL CROSSING NORTH EAST ARROW

**2930** ↗ RISING DIAGONAL CROSSING SOUTH EAST ARROW

**2931** ↘ NORTH EAST ARROW CROSSING NORTH WEST ARROW

**2932** ↗ NORTH WEST ARROW CROSSING NORTH EAST ARROW

### Miscellaneous curved arrows

**2933** ↘ WAVE ARROW POINTING DIRECTLY RIGHT
  - → 219D ↘ rightwards wave arrow
  - → 2B3F ↘ wave arrow pointing directly left

**2934** ↘ ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS
  - → 2934 FE0E text style
  - → 2934 FE0F emoji style
2935 \rightarrow ARROW POINTING RIGHTWARDS THEN CURVING DOWNWARDS
2936 \leftarrow ARROW POINTING DOWNWARDS THEN CURVING LEFTWARDS
2937 \leftarrow ARROW POINTING DOWNWARDS THEN CURVING RIGHTWARDS
2938 \rightarrow \text{RIGHT-SIDE ARC CLOCKWISE ARROW}
2939 \leftarrow \text{LEFT-SIDE ARC ANTICLOCKWISE ARROW}
293A ⥉ TOP ARC ANTICLOCKWISE ARROW
293B ⥈ BOTTOM ARC ANTICLOCKWISE ARROW
293C ⥇ TOP ARC CLOCKWISE ARROW WITH MINUS
293D ⥈ TOP ARC ANTICLOCKWISE ARROW WITH PLUS
293E ⥇ LOWER RIGHT SEMICIRCULAR CLOCKWISE ARROW
293F ⥈ LOWER LEFT SEMICIRCULAR ANTICLOCKWISE ARROW
2940 ⥐ ANTICLOCKWISE CLOSED CIRCLE ARROW
2941 ⥑ CLOCKWISE CLOSED CIRCLE ARROW
2942 \rightarrow \text{RIGHTWARDS ARROW ABOVE SHORT LEFTWARDS ARROW}
2943 \leftarrow \text{LEFTWARDS ARROW ABOVE SHORT RIGHTWARDS ARROW}
2944 \rightarrow \text{SHORT RIGHTWARDS ARROW ABOVE LEFTWARDS ARROW}
2945 \leftarrow \text{LEFTWARDS ARROW ABOVE PLUS BELOW RIGHTWARDS ARROW}
2946 \rightarrow \text{RIGHTWARDS ARROW WITH PLUS BELOW LEFTWARDS ARROW}
2947 \leftarrow \text{LEFTWARDS ARROW WITH PLUS BELOW RIGHTWARDS ARROW}
2948 \rightarrow \text{LEFT RIGHT ARROW THROUGH SMALL CIRCLE}
2949 \leftarrow \text{UPWARDS TWO-HEADED ARROW FROM SMALL CIRCLE}

Double-barred harpoons

294A \rightarrow \text{LEFT BARB UP RIGHT BARB DOWN HARPOON}
294B \leftarrow \text{LEFT BARB DOWN RIGHT BARB UP HARPOON}
294C ⊈ UP BARB RIGHT DOWN BARB LEFT HARPOON
294D ⊈ UP BARB LEFT DOWN BARB RIGHT HARPOON
294E \rightarrow \text{LEFT BARB UP RIGHT BARB UP HARPOON}
294F \leftarrow \text{UP BARB RIGHT DOWN BARB RIGHT HARPOON}
2950 \rightarrow \text{LEFT BARB DOWN RIGHT BARB DOWN HARPOON}
2951 \leftarrow \text{UP BARB LEFT DOWN BARB LEFT HARPOON}

Modified harpoons

2952 \rightarrow \text{LEFTWARDS HARPOON WITH BARB UP TO BAR}
2953 \leftarrow \text{RIGHTWARDS HARPOON WITH BARB UP TO BAR}
2954 \uparrow \text{UPWARDS HARPOON WITH BARB RIGHT TO BAR}
2955 \downarrow \text{DOWNDOWARDS HARPOON WITH BARB RIGHT TO BAR}
2956 \rightarrow \text{LEFTWARDS HARPOON WITH BARB DOWN TO BAR}
2957 \leftarrow \text{RIGHTWARDS HARPOON WITH BARB DOWN TO BAR}
2958 \uparrow \text{UPWARDS HARPOON WITH BARB LEFT TO BAR}
2959 \downarrow \text{DOWNDOWARDS HARPOON WITH BARB LEFT TO BAR}
295A \leftarrow \text{LEFTWARDS HARPOON WITH BARB UP FROM BAR}

Paired harpoons

295B \rightarrow \text{RIGHTWARDS HARPOON WITH BARB UP FROM BAR}
295C \uparrow \text{UPWARDS HARPOON WITH BARB RIGHT FROM BAR}
295D \downarrow \text{DOWNDOWARDS HARPOON WITH BARB RIGHT FROM BAR}
295E \leftarrow \text{LEFTWARDS HARPOON WITH BARB DOWN FROM BAR}
295F \rightarrow \text{RIGHTWARDS HARPOON WITH BARB DOWN FROM BAR}
2960 \uparrow \text{UPWARDS HARPOON WITH BARB LEFT FROM BAR}
2961 \downarrow \text{DOWNDOWARDS HARPOON WITH BARB LEFT FROM BAR}

Miscellaneous arrow

2962 \rightarrow \text{LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS HARPOON WITH BARB DOWN}
2963 \leftarrow \text{UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS HARPOON WITH BARB RIGHT}
2964 \rightarrow \text{RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHTWARDS HARPOON WITH BARB DOWN}
2965 \leftarrow \text{DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON WITH BARB DOWN}
2966 \rightarrow \text{LEFTWARDS HARPOON WITH BARB UP ABOVE RIGHTWARDS HARPOON WITH BARB UP}
2967 \leftarrow \text{LEFTWARDS HARPOON WITH BARB DOWN ABOVE RIGHTWARDS HARPOON WITH BARB DOWN}
2968 \rightarrow \text{RIGHTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS HARPOON WITH BARB UP}
2969 \leftarrow \text{RIGHTWARDS HARPOON WITH BARB DOWN ABOVE LEFTWARDS HARPOON WITH BARB DOWN}
296A \rightarrow \text{LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH}
296B \leftarrow \text{LEFTWARDS HARPOON WITH BARB DOWN BELOW LONG DASH}
296C \rightarrow \text{RIGHTWARDS HARPOON WITH BARB UP ABOVE LONG DASH}
296D \leftarrow \text{RIGHTWARDS HARPOON WITH BARB DOWN BELOW LONG DASH}
296E \rightarrow \text{UPWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON WITH BARB RIGHT}
296F \leftarrow \text{DOWNWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS HARPOON WITH BARB RIGHT}

Arrows combined with relations

2970 \rightarrow \text{RIGHT DOUBLE ARROW WITH ROUNDED HEAD}
2971 \rightarrow \text{EQUALS SIGN ABOVE RIGHTWARDS ARROW}
2972 \rightarrow \text{TILDE OPERATOR ABOVE RIGHTWARDS ARROW}
2973 \rightarrow \text{LEFTWARDS ARROW ABOVE TILDE OPERATOR}
2974 \rightarrow \text{RIGHTWARDS ARROW ABOVE TILDE OPERATOR}

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2975  ↘  RIGHTWARDS ARROW ABOVE ALMOST EQUAL TO
             →  2B42  ⇑  leftwards arrow above reverse almost equal to
2976  ⬅  LESS-THAN ABOVE LEFTWARDS ARROW
2977  ⇐  LEFTWARDS ARROW THROUGH LESS-THAN
             →  2B43  ⬇  rightwards arrow through greater-than
2978  ⬆  GREATER-THAN ABOVE RIGHTWARDS ARROW
2979  ⇑  SUBSET ABOVE RIGHTWARDS ARROW
297A  ⬆  LEFTWARDS ARROW THROUGH SUBSET
             →  2B44  ⬇  rightwards arrow through superset
297B  ⬇  SUPERSET ABOVE LEFTWARDS ARROW

Fish tails
297C  ←  LEFT FISH TAIL
297D  →  RIGHT FISH TAIL
297E  ↑  UP FISH TAIL
297F  ↓  DOWN FISH TAIL