

# hb\_ifunc.m

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## Abstract

The function `hb_ifunc()` represent the inverse function of binary entropy.

## 1 Introduction

The function `hb_ifunc()` in the m-file `hb_ifunc.m` is defined as:

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```
P = hb_ifunc(H);
```

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This function represent the formulation of inverse function  $h_b^{-1}()$  of binary entropy function  $h_b()$ ; being  $H$  the binary entropy of probability  $P$ .

$$P = h_b^{-1}(H) \quad (1)$$

$$H = h_b(P) = -P \log_2(P) - (1 - P) \log_2(1 - P) \quad (2)$$

This form is showed in [1].

## References

- [1] Thomas M. Cover and Joy A. Thomas. Elements of Information Theory 2nd Edition. Wiley Series in Telecommunications and Signal Processing. Wiley-Interscience, 2 edition, July 2006.