1.	Record Nr.	UNINA9910830276503321
	Autore	Gittins John C. <1938->
	Titolo	Multi-armed bandit allocation indices [[electronic resource] /] / John Gittins, Kevin Glazebrook, Richard Weber
	Pubbl/distr/stampa	Chichester, : Wiley, 2011
	ISBN	1-283-37409-9 9786613374097 0-470-98004-4 0-470-98003-6
	Edizione	[2nd ed.]
	Descrizione fisica	1 online resource (311 p.)
	Altri autori (Persone)	GlazebrookKevin D. <1950-> WeberRichard <1953->
	Disciplina	519.5 519.8
	Soggetti	Resource allocation - Mathematical models Mathematical optimization Programming (Mathematics)
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Multi-armed Bandit Allocation Indices; Contents; Foreword; Foreword to the first edition; Preface; Preface to the first edition; 1 Introduction or exploration; Exercises; 2 Main ideas: Gittins index; 2.1 Introduction; 2.2 Decision processes; 2.3 Simple families of alternative bandit processes; 2.4 Dynamic programming; 2.5 Gittins index theorem; 2.6 Gittins index; 2.6.1 Gittins index and the multi-armed bandit; 2.6.2 Coins problem; 2.6.3 Characterization of the optimal stopping time; 2.6.4 The restart-in-state formulation; 2.6.5 Dependence on discount factor 2.6.6 Myopic and forwards induction policies2.7 Proof of the index theorem by interchanging bandit portions; 2.8 Continuous-time bandit processes; 2.9 Proof of the index theorem by induction and interchange argument; 2.10 Calculation of Gittins indices; 2.11 Monotonicity conditions; 2.11.1 Monotone indices; 2.11.2 Monotone jobs; 2.12 History of the index theorem; 2.13 Some decision process theory; Exercises; 3 Necessary assumptions for indices; 3.1 Introduction; 3.2

Sommario/riassunto

In 1989 the first edition of this book set out Gittins' pioneering index solution to the multi-armed bandit problem and his subsequent investigation of a wide of sequential resource allocation and stochastic scheduling problems. Since then there has been a remarkable flowering of new insights, generalizations and applications, to which Glazebrook and Weber have made major contributions. This second edition brings the story up to date. There are new chapters on the achievable region approach to stochastic optimization problems, the construction of performance bounds for suboptimal policies, W