	Written Assignment 4
haran Marian	Written Assignment 4 Greedy Algorithms.
oldoda	is the state of the Mark forther the
	Input: a] Array stops [ contains the Jource,
	destination and all the gas stations
2003-17 le 20 (1 m m m m m m m m m m m m m m m m m m	b) n = length of agray otops
. 7.4	i) n = length of agray otops  i) m = miles that the car can travel
	when tank is full
	Output: minimum number of stops
	stone a ' Tight C
1	Algorithm: Island 1200
	precedure minstops (stops, n, m):
l	totallefills = 0 000
Sonote	current figure = 0 borning to the
3	while "current left < n-1
4	last by le current Refill
5	while Currentlegal < n-1 and
6	stops (current leful +1] - stops [last Reful] ≤ m
7	< Sp Currentleliu +=1
8	Current Refull < n-1
9.	total repul += 1
610	rightun total Refill
	Touthout the control of the
Tangenter or the Control of	Service State of the service of the
	Sumily 3. 1 and the sum of the su
National Contract of the Contr	

	Correctness & Optimality
•	The algorithm is go correct & optimal because we always right at the for farthest reachable
	we always north at the to farthest reachable
Ž: 4	gas station considering we always fill
ilations	gas station considering we always fill the full gas tank at every stop. Since we will always go till the farthest gas station we will make the minimum number of stops
٠	Since we will always go till the
bright 10	farthest gas station we will make the
	eggy to extreme minimo togli. O
2.	Input 'n erents
	g projet associated with each event
	t scheduled by time for
	cach even [deadline]
	Output: Optimal Schoolile that maximizes profet
	3 white control on
	Algorithms: 10 = 11 to 1 to 1
ban	pagedure shoot schedule (n)
m> [usht 1]	Sort jobs according to projet
tion the same	1=+ 1e1,11 91 > 92 > _ > 9n
?.	to forth a train range (sn)
3	Schedule job i in the latest
	possible free sto time slot (by
	to deadline
4	
	If there is no slot for i then of continue

Pagg: -Since the most projetable jobs are selected first and scheduled byore their cleadine the appointment algorithm is correct and as the it maximizes the profit. 3 Input: - Set 2/22 2 .... son points on the head line. Output: - dist of to unit length internals covering all points Algorithm: Let a be the smallest clement in the set which is not in any lest. white a <= x +1: add is to the lift of a If set is exhausted [all elements have been (Onsidered) exit Clse GOTO Step 1 Since the set is already sorted we select the smallest clement say a. Then we create a list with in with internal [2, 314] and add numbers the points belonging to this

(z)	
	interval. Once we get to a number
bothola	interval. Once we get to a number which is greater than xH, we make
collect	that number/point the new x
lay	and create a new list & with
7. W. 3	interval [2,24] and repeat the
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	above procedure till all the numbers
at or the	/points in the set are covered.
	The state of the s
LANGE V	Therefore the algorithm is optimal &
V	correct as it yelds the smallest
	set of unit length closed intervals that
310-23-3-10-3-10-3-10-3-10-3-10-3-10-3-1	set of unit length closed intervals that
to 1	it is transfer the smallest estate i
4	Output: least number of coinside
	Output: least number of coinstitue
	- you till set of or loho
have been	Algorithm : 10 ( latourdes 21 182 )
	produ procedure mis Coiry (n):
	change = [25, 10, 5, 1]
2.	list of coinst = 12 ] or or or
3	for i in change:
4.	while $n \le i$ :
tooling 5	su botros phonelo ni= ho- Last Bail
10 AND 63	but est list of was
16	list g coins append (i)
014.7	greturn list of coins
	A Maria Mari

Since the array change is sorted in descending order the coins with the highest value are added to the list first. Therefore we output the least number of quarters, dines, nickels and that pennies.