

# Task - 1

ABC Technologies has four departments: HR, Finance, IT, and Sales. The company wishes to allocate the employee codes from the following: • 1 to 500 to the employees of the HR department, • 501 to 1000 to the employees of the Finance department, • 1001 to 1500 to the employees of the IT department, and • 1501 to 2000 to the employees of the Sales department. Help the company accomplish this task.

```
import numpy as np
hr = np.arange(1,501)
#print(hr)
fin = np.arange(501,1001)
#print(fin)
it = np.arange(1001,1501)
sale = np.arange(1501,2001)
```

# Task - 2

The annual salary of the HR department employees lies between \$25,000 and \$50,000. The annual salary for the Finance employees is 25% more than each employee of the HR department. The annual salary of the Sales employees is half of each employee of the Finance department. The annual salary of the IT employees is \$5,000 more than each employee of the HR department. Help the company to generate the salary for all employees of each department.

```
hr_sal = np.random.randint(25000,50000,500)
#print(np.size(hr_sal))
fin_sal = hr_sal+(0.25*hr_sal)
print(hr_sal[0:11],fin_sal[0:11])
[48496 44399 40610 46979 47453 35477 43829 25979 27315 37371 39334]
[60620.    55498.75 50762.5  58723.75 59316.25 44346.25 54786.25
32473.75
 34143.75 46713.75 49167.5 ]
sale_sal = fin_sal/2
print(sale_sal)
[30310.    27749.375 25381.25  29361.875 29658.125 22173.125 27393.125
16236.875 17071.875 23356.875 24583.75  16678.75  18950.    28058.125
30823.75  25830.625 22419.375 25561.875 28997.5  22737.5  20720.
23760.    18707.5  30431.25 31107.5  30551.25 29180.625 18528.125
27292.5  18219.375 17330.    17494.375 26125.    29131.875 30966.25
29677.5  16621.25 27348.125 16642.5  26158.75 27290.625 22656.25]
```

24300.625	20316.25	18378.75	30742.5	16028.125	29062.5	24741.875
18091.875	18544.375	31149.375	26752.5	18310.	28074.375	20591.875
24599.375	26923.75	19195.	19176.25	20988.75	29299.375	15780.
21396.875	23008.125	19523.75	28873.125	25298.75	26855.625	25539.375
26713.125	30766.25	21201.25	29468.75	24005.625	27098.75	30533.75
24289.375	16390.625	25002.5	30949.375	25375.	21011.875	24950.625
29533.75	30355.	30433.125	28540.	23099.375	29399.375	24501.875
22748.75	18545.	31166.875	27207.5	19146.875	19217.5	23951.875
19843.125	27270.625	26587.5	21078.125	15821.875	21978.75	21456.875
25986.875	30175.625	19478.125	29233.75	24280.625	19171.25	27080.
22998.75	31025.	24585.	30766.25	20655.	17516.875	24111.25
26501.875	20392.5	20734.375	25732.5	19638.75	29959.375	24171.875
29648.75	16815.625	20281.25	17663.125	23131.25	17151.25	27451.875
18829.375	17604.375	22083.125	16502.5	16919.375	24482.5	15831.25
29390.	17622.5	15835.	22708.125	20076.875	20234.375	27710.625
23874.375	16715.625	27111.25	23790.	23003.125	30573.75	22006.875
30461.875	16536.875	26293.125	19867.5	25085.625	17706.875	29955.
27103.125	31121.875	27153.125	22491.875	24131.25	16307.5	23735.
27995.	19058.125	28183.75	27375.	26454.375	16149.375	20103.125
17165.625	25594.375	23551.875	21283.125	28778.125	18711.875	31080.625
24056.875	22887.5	28203.75	22322.5	22042.5	22892.5	16948.125
20478.125	20813.75	28296.25	27722.5	23974.375	17028.75	23482.5
17463.75	22362.5	29672.5	16422.5	27705.	17399.375	26499.375
16767.5	22153.75	26473.75	22635.	19186.875	21215.	23706.25
27959.375	16851.875	26701.25	16733.75	21393.125	23590.	22304.375
28769.375	18541.875	22586.25	29274.375	30092.5	30994.375	22619.375
31221.875	26613.125	25449.375	29165.625	22003.125	18133.75	21244.375
18410.625	29273.75	21070.	21995.625	27411.25	30224.375	18717.5
30240.625	21971.25	23786.875	22427.5	16433.75	20365.	23095.
16951.875	28596.875	16542.5	17021.875	18973.125	17138.125	28323.125
17850.	21557.5	28825.	20284.375	25701.875	31110.	29166.875
30772.5	30179.375	27443.125	30274.375	27590.	20326.875	30370.625
25092.5	30812.5	23295.	28350.625	21898.125	29508.75	28528.75
15998.125	24316.875	30092.5	27128.75	25586.25	18084.375	18565.
15802.5	21494.375	15705.625	30762.5	27987.5	26973.75	27630.
23686.875	26446.25	26660.	18348.75	28263.75	27916.875	26297.5
18010.	30140.	20588.125	17788.75	27424.375	19070.	18377.5
19046.875	28158.75	20880.	22471.25	15780.625	15654.375	19603.125
18735.625	18222.5	23978.75	26764.375	18752.5	24243.125	26720.
19018.125	20123.125	30155.	28250.625	16477.5	20396.875	19888.75
17715.625	28206.25	21979.375	29806.25	26555.	30538.75	23606.875
26256.875	22837.5	15844.375	28057.5	23755.	19752.5	25118.125
28322.5	24438.125	26483.125	21181.875	29691.875	17406.25	28108.125
25277.5	18065.	18396.875	20501.25	27726.25	16237.5	19255.
30533.125	31196.25	23753.125	23778.125	26939.375	17761.875	24669.375
26459.375	28959.375	26130.625	28751.25	23732.5	30156.875	21646.25
16087.5	27619.375	15702.5	21891.875	19522.5	19521.875	29411.25
16813.125	20962.5	28326.875	27087.5	16678.125	20952.5	26261.875
26245.	17283.125	21072.5	18844.375	21340.	18834.375	21558.125

18251.25	22374.375	25501.25	21511.25	16350.625	30633.125	17762.5
18956.875	18115.	19747.5	19117.5	21511.875	26322.5	16266.25
20555.	27683.75	23831.25	20263.125	16220.625	16230.625	20678.75
18407.5	25245.	29806.25	28621.875	17005.	21833.125	21495.625
24939.375	24662.5	20990.	21162.5	20001.25	15963.75	26282.5
16451.25	17778.75	21274.375	21388.125	29913.125	29546.875	27160.
25580.	26310.	21092.5	23019.375	21435.	17365.625	23971.875
21860.	17147.5	18052.5	16801.25	30714.375	29869.375	27085.625
23188.125	24500.625	18878.125	26744.375	18463.125	20318.125	19623.125
18950.625	25540.625	24255.625	25491.875	21960.625	22053.125	20226.875
21601.875	24256.875	27906.25	26019.375	21685.625	26332.5	26631.25
21198.125	30035.	23757.5	21094.375	15804.375	24923.75	30663.75
26463.75	17645.	30043.125	25953.125	29945.	28720.	23265.625
26196.25	19903.125	26322.5	28947.5	19389.375	25147.5	20068.125
26616.875	27801.25	17220.625	30210.625	21233.125	27021.875	18983.125
16076.25	27641.25	24230.625	25096.25	28236.875	24586.875	22751.875
18960.625	28841.25	21152.5	]			

```
it_sal = np.add(hr_sal,5000)
print(it_sal)
```

53496	49399	45610	51979	52453	40477	48829	30979	32315	42371	44334
31686										
35320	49893	54318	46329	40871	45899	51396	41380	38152	43016	34932
53690										
54772	53882	51689	34645	48668	34151	32728	32991	46800	51611	54546
52484										
31594	48757	31628	46854	48665	41250	43881	37506	34406	54188	30645
51500										
44587	33947	34671	54839	47804	34296	49919	37947	44359	48078	35712
35682										
38582	51879	30248	39235	41813	36238	51197	45478	47969	45863	47741
54226										
38922	52150	43409	48358	53854	43863	31225	45004	54519	45600	38619
44921										
52254	53568	53693	50664	41959	52039	44203	41398	34672	54867	48532
35635										
35748	43323	36749	48633	47540	38725	30315	40166	39331	46579	53281
36165										
51774	43849	35674	48328	41798	54640	44336	54226	38048	33027	43578
47403										
37628	38175	46172	36422	52935	43675	52438	31905	37450	33261	42010
32442										
48923	35127	33167	40333	31404	32071	44172	30330	52024	33196	30336
41333										
37123	37375	49337	43199	31745	48378	43064	41805	53918	40211	53739
31459										
47069	36788	45137	33331	52928	48365	54795	48445	40987	43610	31092
42976										
49792	35493	50094	48800	47327	30839	37165	32465	45951	42683	39053

51045  
34939 54729 43491 41620 50126 40716 40268 41628 32117 37765 38302  
50274  
49356 43359 32246 42572 32942 40780 52476 31276 49328 32839 47399  
31828  
40446 47358 41216 35699 38944 42930 49735 31963 47722 31774 39229  
42744  
40687 51031 34667 41138 51839 53148 54591 41191 54955 47581 45719  
51665  
40205 34014 38991 34457 51838 38712 40193 48858 53359 34948 53385  
40154  
43059 40884 31294 37584 41952 32123 50755 31468 32235 35357 32421  
50317  
33560 39492 51120 37455 46123 54776 51667 54236 53287 48909 53439  
49144  
37523 53593 45148 54300 42272 50361 40037 52214 50646 30597 43907  
53148  
48406 45938 33935 34704 30284 39391 30129 54220 49780 48158 49208  
42899  
47314 47656 34358 50222 49667 47076 33816 53224 37941 33462 48879  
35512  
34404 35475 50054 38408 40954 30249 30047 36365 34977 34156 43366  
47823  
35004 43789 47752 35429 37197 53248 50201 31364 37635 36822 33345  
50130  
40167 52690 47488 53862 42771 47011 41540 30351 49892 43008 36604  
45189  
50316 44101 47373 38891 52507 32850 49973 45444 33904 34435 37802  
49362  
30980 35808 53853 54914 43005 43045 48103 33419 44471 47335 51335  
46809  
51002 42972 53251 39634 30740 49191 30124 40027 36236 36235 52058  
31901  
38540 50323 48340 31685 38524 47019 46992 32653 38716 35151 39144  
35135  
39493 34202 40799 45802 39418 31161 54013 33420 35331 33984 36596  
35588  
39419 47116 31026 37888 49294 43130 37421 30953 30969 38086 34452  
45392  
52690 50795 32208 39933 39393 44903 44460 38584 38860 37002 30542  
47052  
31322 33446 39039 39221 52861 52275 48456 45928 47096 38748 41831  
39296  
32785 43355 39976 32436 33884 31882 54143 52791 48337 42101 44201  
35205  
47791 34541 37509 36397 35321 45865 43809 45787 40137 40285 37363  
39563  
43811 49650 46631 39697 47132 47610 38917 53056 43012 38751 30287  
44878

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54062 47342 33232 53069 46525 52912 50952 42225 46914 36845 47116
51316
36023 45236 37109 47587 49482 32553 53337 38973 48235 35373 30722
49226
43769 45154 50179 44339 41403 35337 51146 38844]
```

```
print("Salary of HR dept : ",hr_sal,"Salary of FINANCE dept :
",fin_sal,"Salary of SALES dept : ",sale_sal,"Salary of IT dept :
",it_sal)
```

```
Salary of HR dept : [33582 35904 36499 39170 36511 32967 38089 42053
43884 29616 41904 36636
43095 32318 48930 43396 49668 27003 38326 45865 27415 42897 27019
39409
34705 27738 27694 48407 43477 46945 49800 40607 34070 27671 38903
35219
39742 29872 42694 29748 39711 48926 38214 47699 49985 42352 34169
34559
32643 37238 35982 28194 38969 35053 27753 36755 35909 41811 25424
38455
37590 26297 36799 32458 41687 27107 35406 33054 43690 46980 40271
47490
30275 39096 38461 37284 37432 29690 44692 31425 48336 25555 46556
27840
44223 33181 37741 41855 37752 41893 39977 48256 25432 32570 34944
47938
26229 36159 27430 35006 29690 38560 46557 45349 42110 46071 43314
42348
30082 45280 39281 29522 46352 49069 48619 29452 37380 36330 48717
35922
44380 27403 28404 45222 33439 26626 33963 43230 48577 43681 33199
40214
26248 34929 36267 48197 28885 30104 46125 47249 38550 49913 32382
47752
34752 48826 34061 42983 38864 30530 37708 38626 49647 31079 45855
33524
49843 30065 47969 27465 26132 33086 34379 47666 38202 32206 26433
30847
29538 42021 33897 41903 28342 27942 47007 44326 33896 36728 26102
46792
42752 38800 35633 41636 30715 37248 37995 29213 37925 43171 49958
40888
32700 43314 42246 36526 35849 37398 38618 34826 28638 47521 37102
31311
37782 47883 25639 26616 33834 33063 38300 32434 32547 36157 37827
25004
27368 40466 43826 43479 37389 29950 48953 42536 43793 31088 48491
32926
28368 28553 29814 36594 30456 44835 36416 36591 46180 34568 28510
46440
```

27592	31848	41807	46465	41842	42171	29529	37918	41540	32495	26284
43731										
36612	31106	35811	34395	35641	34418	47066	31673	42845	42326	41833
48138										
32553	43049	42754	42406	47680	47029	46311	34793	47708	47915	42100
39488										
48717	42253	43655	39240	40807	31296	34965	27923	26021	46593	49117
44998										
26902	48868	38212	46426	43008	35730	48481	29998	30504	41239	37684
48234										
28742	44634	43541	34573	33535	40041	34224	48228	25629	33799	42023
37633										
47549	36623	31942	43935	44720	38861	33065	36608	34109	49417	48056
49142										
46062	25182	44270	40004	47003	26814	28452	40732	42617	36656	37331
41103										
42028	44900	28940	45478	42005	46338	45291	42608	46708	47464	27456
42261										
48634	44651	46869	36123	33965	35789	33238	43501	28585	35729	27297
41528										
35527	37200	35106	28469	33329	28979	47132	33949	35856	40515	42317
38824										
31739	29938	47208	26731	36308	36889	27709	34288	44790	25668	40452
47474										
29694	33528	47929	30696	26832	48145	26618	28150	32611	47866	39637
32736										
30489	33771	35085	43258	25450	40327	44561	32005	46853	25397	36988
46144										
29649	41658	47229	34212	46548	49562	28999	31255	31477	26533	28224
26326										
29251	27541	29759	30589	31065	45664	33347	25991	35129	47596	33431
41804										
46404	43902	41911	42176	45568	38714	37566	42493	36949	35611	44696
48637										
28079	27527	30422	42866	47618	46000	40106	31274	28556	35202	33192
49480										
37126	26012	35161	41465	38202	49661	49533	37087	35520	25299	40888
46421										
25930	45450	38445	25137	46237	27426	48753	27449	46707	40241	48782
26151										
31702	34314	30781	47442	45230	33890	42001	49242	42725	47929	38067
47281										
37478	26795	38337	40569	27834	25625	36630	41009	Salary of FINANCE		
dept :	[41977.5	44880.	45623.75	48962.5	45638.75	41208.75				
47611.25	52566.25									
54855.	37020.	52380.	45795.	53868.75	40397.5	61162.5	54245.			
62085.	33753.75	47907.5	57331.25	34268.75	53621.25	33773.75				
49261.25										
43381.25	34672.5	34617.5	60508.75	54346.25	58681.25	62250.				

50758.75							
42587.5	34588.75	48628.75	44023.75	49677.5	37340.	53367.5	37185.
49638.75	61157.5	47767.5	59623.75	62481.25	52940.	42711.25	
43198.75							
40803.75	46547.5	44977.5	35242.5	48711.25	43816.25	34691.25	
45943.75							
44886.25	52263.75	31780.	48068.75	46987.5	32871.25	45998.75	
40572.5							
52108.75	33883.75	44257.5	41317.5	54612.5	58725.	50338.75	
59362.5							
37843.75	48870.	48076.25	46605.	46790.	37112.5	55865.	
39281.25							
60420.	31943.75	58195.	34800.	55278.75	41476.25	47176.25	
52318.75							
47190.	52366.25	49971.25	60320.	31790.	40712.5	43680.	
59922.5							
32786.25	45198.75	34287.5	43757.5	37112.5	48200.	58196.25	
56686.25							
52637.5	57588.75	54142.5	52935.	37602.5	56600.	49101.25	
36902.5							
57940.	61336.25	60773.75	36815.	46725.	45412.5	60896.25	
44902.5							
55475.	34253.75	35505.	56527.5	41798.75	33282.5	42453.75	
54037.5							
60721.25	54601.25	41498.75	50267.5	32810.	43661.25	45333.75	
60246.25							
36106.25	37630.	57656.25	59061.25	48187.5	62391.25	40477.5	59690.
43440.	61032.5	42576.25	53728.75	48580.	38162.5	47135.	
48282.5							
62058.75	38848.75	57318.75	41905.	62303.75	37581.25	59961.25	
34331.25							
32665.	41357.5	42973.75	59582.5	47752.5	40257.5	33041.25	
38558.75							
36922.5	52526.25	42371.25	52378.75	35427.5	34927.5	58758.75	
55407.5							
42370.	45910.	32627.5	58490.	53440.	48500.	44541.25	52045.
38393.75	46560.	47493.75	36516.25	47406.25	53963.75	62447.5	51110.
40875.	54142.5	52807.5	45657.5	44811.25	46747.5	48272.5	
43532.5							
35797.5	59401.25	46377.5	39138.75	47227.5	59853.75	32048.75	33270.
42292.5	41328.75	47875.	40542.5	40683.75	45196.25	47283.75	31255.
34210.	50582.5	54782.5	54348.75	46736.25	37437.5	61191.25	53170.
54741.25	38860.	60613.75	41157.5	35460.	35691.25	37267.5	
45742.5							
38070.	56043.75	45520.	45738.75	57725.	43210.	35637.5	58050.
34490.	39810.	52258.75	58081.25	52302.5	52713.75	36911.25	
47397.5							
51925.	40618.75	32855.	54663.75	45765.	38882.5	44763.75	
42993.75							

44551.25	43022.5	58832.5	39591.25	53556.25	52907.5	52291.25	
60172.5							
40691.25	53811.25	53442.5	53007.5	59600.	58786.25	57888.75	
43491.25							
59635.	59893.75	52625.	49360.	60896.25	52816.25	54568.75	49050.
51008.75	39120.	43706.25	34903.75	32526.25	58241.25	61396.25	
56247.5							
33627.5	61085.	47765.	58032.5	53760.	44662.5	60601.25	
37497.5							
38130.	51548.75	47105.	60292.5	35927.5	55792.5	54426.25	
43216.25							
41918.75	50051.25	42780.	60285.	32036.25	42248.75	52528.75	
47041.25							
59436.25	45778.75	39927.5	54918.75	55900.	48576.25	41331.25	45760.
42636.25	61771.25	60070.	61427.5	57577.5	31477.5	55337.5	50005.
58753.75	33517.5	35565.	50915.	53271.25	45820.	46663.75	
51378.75							
52535.	56125.	36175.	56847.5	52506.25	57922.5	56613.75	53260.
58385.	59330.	34320.	52826.25	60792.5	55813.75	58586.25	
45153.75							
42456.25	44736.25	41547.5	54376.25	35731.25	44661.25	34121.25	51910.
44408.75	46500.	43882.5	35586.25	41661.25	36223.75	58915.	
42436.25							
44820.	50643.75	52896.25	48530.	39673.75	37422.5	59010.	
33413.75							
45385.	46111.25	34636.25	42860.	55987.5	32085.	50565.	
59342.5							
37117.5	41910.	59911.25	38370.	33540.	60181.25	33272.5	
35187.5							
40763.75	59832.5	49546.25	40920.	38111.25	42213.75	43856.25	
54072.5							
31812.5	50408.75	55701.25	40006.25	58566.25	31746.25	46235.	57680.
37061.25	52072.5	59036.25	42765.	58185.	61952.5	36248.75	
39068.75							
39346.25	33166.25	35280.	32907.5	36563.75	34426.25	37198.75	
38236.25							
38831.25	57080.	41683.75	32488.75	43911.25	59495.	41788.75	52255.
58005.	54877.5	52388.75	52720.	56960.	48392.5	46957.5	
53116.25							
46186.25	44513.75	55870.	60796.25	35098.75	34408.75	38027.5	
53582.5							
59522.5	57500.	50132.5	39092.5	35695.	44002.5	41490.	61850.
46407.5	32515.	43951.25	51831.25	47752.5	62076.25	61916.25	
46358.75							
44400.	31623.75	51110.	58026.25	32412.5	56812.5	48056.25	
31421.25							
57796.25	34282.5	60941.25	34311.25	58383.75	50301.25	60977.5	
32688.75							
39627.5	42892.5	38476.25	59302.5	56537.5	42362.5	52501.25	



61552.5  
53406.25 59911.25 47583.75 59101.25 46847.5 33493.75 47921.25  
50711.25  
34792.5 32031.25 45787.5 51261.25] Salary of SALES dept :  
[20988.75 22440. 22811.875 24481.25 22819.375 20604.375 23805.625  
26283.125 27427.5 18510. 26190. 22897.5 26934.375 20198.75  
30581.25 27122.5 31042.5 16876.875 23953.75 28665.625 17134.375  
26810.625 16886.875 24630.625 21690.625 17336.25 17308.75 30254.375  
27173.125 29340.625 31125. 25379.375 21293.75 17294.375 24314.375  
22011.875 24838.75 18670. 26683.75 18592.5 24819.375 30578.75  
23883.75 29811.875 31240.625 26470. 21355.625 21599.375 20401.875  
23273.75 22488.75 17621.25 24355.625 21908.125 17345.625 22971.875  
22443.125 26131.875 15890. 24034.375 23493.75 16435.625 22999.375  
20286.25 26054.375 16941.875 22128.75 20658.75 27306.25 29362.5  
25169.375 29681.25 18921.875 24435. 24038.125 23302.5 23395.  
18556.25 27932.5 19640.625 30210. 15971.875 29097.5 17400.  
27639.375 20738.125 23588.125 26159.375 23595. 26183.125 24985.625  
30160. 15895. 20356.25 21840. 29961.25 16393.125 22599.375  
17143.75 21878.75 18556.25 24100. 29098.125 28343.125 26318.75  
28794.375 27071.25 26467.5 18801.25 28300. 24550.625 18451.25  
28970. 30668.125 30386.875 18407.5 23362.5 22706.25 30448.125  
22451.25 27737.5 17126.875 17752.5 28263.75 20899.375 16641.25  
21226.875 27018.75 30360.625 27300.625 20749.375 25133.75 16405.  
21830.625 22666.875 30123.125 18053.125 18815. 28828.125 29530.625  
24093.75 31195.625 20238.75 29845. 21720. 30516.25 21288.125  
26864.375 24290. 19081.25 23567.5 24141.25 31029.375 19424.375  
28659.375 20952.5 31151.875 18790.625 29980.625 17165.625 16332.5  
20678.75 21486.875 29791.25 23876.25 20128.75 16520.625 19279.375  
18461.25 26263.125 21185.625 26189.375 17713.75 17463.75 29379.375  
27703.75 21185. 22955. 16313.75 29245. 26720. 24250.  
22270.625 26022.5 19196.875 23280. 23746.875 18258.125 23703.125  
26981.875 31223.75 25555. 20437.5 27071.25 26403.75 22828.75  
22405.625 23373.75 24136.25 21766.25 17898.75 29700.625 23188.75  
19569.375 23613.75 29926.875 16024.375 16635. 21146.25 20664.375  
23937.5 20271.25 20341.875 22598.125 23641.875 15627.5 17105.  
25291.25 27391.25 27174.375 23368.125 18718.75 30595.625 26585.  
27370.625 19430. 30306.875 20578.75 17730. 17845.625 18633.75  
22871.25 19035. 28021.875 22760. 22869.375 28862.5 21605.  
17818.75 29025. 17245. 19905. 26129.375 29040.625 26151.25  
26356.875 18455.625 23698.75 25962.5 20309.375 16427.5 27331.875  
22882.5 19441.25 22381.875 21496.875 22275.625 21511.25 29416.25  
19795.625 26778.125 26453.75 26145.625 30086.25 20345.625 26905.625  
26721.25 26503.75 29800. 29393.125 28944.375 21745.625 29817.5  
29946.875 26312.5 24680. 30448.125 26408.125 27284.375 24525.  
25504.375 19560. 21853.125 17451.875 16263.125 29120.625 30698.125  
28123.75 16813.75 30542.5 23882.5 29016.25 26880. 22331.25  
30300.625 18748.75 19065. 25774.375 23552.5 30146.25 17963.75  
27896.25 27213.125 21608.125 20959.375 25025.625 21390. 30142.5  
16018.125 21124.375 26264.375 23520.625 29718.125 22889.375 19963.75

27459.375	27950.	24288.125	20665.625	22880.	21318.125	30885.625
30035.	30713.75	28788.75	15738.75	27668.75	25002.5	29376.875
16758.75	17782.5	25457.5	26635.625	22910.	23331.875	25689.375
26267.5	28062.5	18087.5	28423.75	26253.125	28961.25	28306.875
26630.	29192.5	29665.	17160.	26413.125	30396.25	27906.875
29293.125	22576.875	21228.125	22368.125	20773.75	27188.125	17865.625
22330.625	17060.625	25955.	22204.375	23250.	21941.25	17793.125
20830.625	18111.875	29457.5	21218.125	22410.	25321.875	26448.125
24265.	19836.875	18711.25	29505.	16706.875	22692.5	23055.625
17318.125	21430.	27993.75	16042.5	25282.5	29671.25	18558.75
20955.	29955.625	19185.	16770.	30090.625	16636.25	17593.75
20381.875	29916.25	24773.125	20460.	19055.625	21106.875	21928.125
27036.25	15906.25	25204.375	27850.625	20003.125	29283.125	15873.125
23117.5	28840.	18530.625	26036.25	29518.125	21382.5	29092.5
30976.25	18124.375	19534.375	19673.125	16583.125	17640.	16453.75
18281.875	17213.125	18599.375	19118.125	19415.625	28540.	20841.875
16244.375	21955.625	29747.5	20894.375	26127.5	29002.5	27438.75
26194.375	26360.	28480.	24196.25	23478.75	26558.125	23093.125
22256.875	27935.	30398.125	17549.375	17204.375	19013.75	26791.25
29761.25	28750.	25066.25	19546.25	17847.5	22001.25	20745.
30925.	23203.75	16257.5	21975.625	25915.625	23876.25	31038.125
30958.125	23179.375	22200.	15811.875	25555.	29013.125	16206.25
28406.25	24028.125	15710.625	28898.125	17141.25	30470.625	17155.625
29191.875	25150.625	30488.75	16344.375	19813.75	21446.25	19238.125
29651.25	28268.75	21181.25	26250.625	30776.25	26703.125	29955.625
23791.875	29550.625	23423.75	16746.875	23960.625	25355.625	17396.25
16015.625	22893.75	25630.625]	Salary of IT dept : [38582 40904			
41499	44170	41511	37967	43089	47053	48884
34616	46904	41636	48095	37318	53930	48396
54668	32003	43326	50865	32415	47897	32019
44409	39705	32738	32694	53407	48477	51945
54800	45607	39070	32671	43903	40219	44742
34872	47694	34748	44711	53926	43214	52699
54985	47352	39169	39559	37643	42238	40982
33194	43969	40053	32753	41755	40909	46811
30424	43455	42590	31297	41799	37458	46687
32107	40406	38054	48690	51980	45271	52490
35275	44096	43461	42284	42432	34690	49692
36425	53336	30555	51556	32840	49223	38181
42741	46855	42752	46893	44977	53256	30432
37570	39944	52938	31229	41159	32430	40006
34690	43560	51557	50349	47110	51071	48314
47348	35082	50280	44281	34522	51352	54069
53619	34452	42380	41330	53717	40922	49380
32403	33404	50222	38439	31626	38963	48230
53577	48681	38199	45214	31248	39929	41267
53197	33885	35104	51125	52249	43550	54913
37382						

52752  
39752 53826 39061 47983 43864 35530 42708 43626 54647 36079 50855  
38524  
54843 35065 52969 32465 31132 38086 39379 52666 43202 37206 31433  
35847  
34538 47021 38897 46903 33342 32942 52007 49326 38896 41728 31102  
51792  
47752 43800 40633 46636 35715 42248 42995 34213 42925 48171 54958  
45888  
37700 48314 47246 41526 40849 42398 43618 39826 33638 52521 42102  
36311  
42782 52883 30639 31616 38834 38063 43300 37434 37547 41157 42827  
30004  
32368 45466 48826 48479 42389 34950 53953 47536 48793 36088 53491  
37926  
33368 33553 34814 41594 35456 49835 41416 41591 51180 39568 33510  
51440  
32592 36848 46807 51465 46842 47171 34529 42918 46540 37495 31284  
48731  
41612 36106 40811 39395 40641 39418 52066 36673 47845 47326 46833  
53138  
37553 48049 47754 47406 52680 52029 51311 39793 52708 52915 47100  
44488  
53717 47253 48655 44240 45807 36296 39965 32923 31021 51593 54117  
49998  
31902 53868 43212 51426 48008 40730 53481 34998 35504 46239 42684  
53234  
33742 49634 48541 39573 38535 45041 39224 53228 30629 38799 47023  
42633  
52549 41623 36942 48935 49720 43861 38065 41608 39109 54417 53056  
54142  
51062 30182 49270 45004 52003 31814 33452 45732 47617 41656 42331  
46103  
47028 49900 33940 50478 47005 51338 50291 47608 51708 52464 32456  
47261  
53634 49651 51869 41123 38965 40789 38238 48501 33585 40729 32297  
46528  
40527 42200 40106 33469 38329 33979 52132 38949 40856 45515 47317  
43824  
36739 34938 52208 31731 41308 41889 32709 39288 49790 30668 45452  
52474  
34694 38528 52929 35696 31832 53145 31618 33150 37611 52866 44637  
37736  
35489 38771 40085 48258 30450 45327 49561 37005 51853 30397 41988  
51144  
34649 46658 52229 39212 51548 54562 33999 36255 36477 31533 33224  
31326  
34251 32541 34759 35589 36065 50664 38347 30991 40129 52596 38431  
46804

```

51404 48902 46911 47176 50568 43714 42566 47493 41949 40611 49696
53637
33079 32527 35422 47866 52618 51000 45106 36274 33556 40202 38192
54480
42126 31012 40161 46465 43202 54661 54533 42087 40520 30299 45888
51421
30930 50450 43445 30137 51237 32426 53753 32449 51707 45241 53782
31151
36702 39314 35781 52442 50230 38890 47001 54242 47725 52929 43067
52281
42478 31795 43337 45569 32834 30625 41630 46009]

```

## Task - 3

In order to manage the total expenses of the company, the Finance Manager wants to identify the departmentwise total cost to the company. Help the Finance Manager to accomplish this task. Which department is costing more to the company?

```

hr_avg_sal = np.mean(hr_sal)
fin_avg_sal = np.mean(fin_sal)
sale_avg_sal = np.mean(sale_sal)
it_avg_sal = np.mean(it_sal)
print("HR average salary: ",hr_avg_sal,"FINANCE average salary:
",fin_avg_sal,"SALES average salary: ",sale_avg_sal,"IT average
salary: ",it_avg_sal)

```

```

HR average salary:  37826.108 FINANCE average salary:  47282.635 SALES
average salary:  23641.3175 IT average salary:  42826.108

```

## Task - 4

Help the company list the top 10 highest salaries of each department. Further, determine the sum of the top 10 highest salaries for each department.

```

hr_top_ten = np.sort(hr_sal)[:,-1]
h_top = hr_top_ten[0:11]
fin_top_ten = np.sort(fin_sal)[:,-1]
f_top = fin_top_ten[0:11]
sale_top_ten = np.sort(sale_sal)[:,-1]
sale_top = sale_top_ten[0:11]
it_top_ten = np.sort(it_sal)[:,-1]
it_top = it_top_ten[0:11]
print("HR Top Highest :",h_top)

```

```

print("FINANCE Top Highest :",f_top)
print("SALES Top Highest :",sale_top)
print("IT Top Highest :",it_top)
print("SUM of HR Top Highest :",np.sum(h_top))
print("SUM of FINANCE Top Highest :",np.sum(f_top))
print("SUM of SALES Top Highest :",np.sum(sale_top))
print("SUM of IT Top Highest :",np.sum(it_top))

HR Top Highest : [49985 49958 49913 49843 49800 49668 49661 49647
49562 49533 49480]
FINANCE Top Highest : [62481.25 62447.5 62391.25 62303.75 62250.
62085. 62076.25 62058.75
61952.5 61916.25 61850. ]
SALES Top Highest : [31240.625 31223.75 31195.625 31151.875 31125.
31042.5 31038.125
31029.375 30976.25 30958.125 30925. ]
IT Top Highest : [54985 54958 54913 54843 54800 54668 54661 54647
54562 54533 54480]
SUM of HR Top Highest : 547050
SUM of FINANCE Top Highest : 683812.5
SUM of SALES Top Highest : 341906.25
SUM of IT Top Highest : 602050

```

## Task - 5

The company has decided to give an increment in the salary by 10% for all the employees whose annual salary is more than \$45,000. Help the company determine the count of the employees whose annual salary is more than \$45,000.

```

hr_dup = hr_sal
hr_index = np.where(hr_dup>45000)
hr_dup[hr_index] = hr_dup[hr_index] + (0.10*hr_dup[hr_index])
print(hr_dup[hr_index])
print("Count : ",np.size(hr_index))

[59205 60097 55496 58571 56802 60258 59199 57714 60481 56845 57462
58485
56332 58389 58004 56333 54871 55745 54788 56085 59372 58828 58946
54718
58777 58317 55810 57170 60394 57779 59078 60072 55484 60309 58041
57675
56877 56618 60448 57500 57938 59232 58674 55877 56192 56222 56949
58246
57692 56904 56036 57725 57976 58946 56377 59430 59129 56174 58661
58362
58355 57533 59793 58147 59461 55734 56873 55027 56068 54802 56515
57431

```

```

58846 56710 57029 57120 57443 57993 58254 57917 56691 55833 57146
56322
59969 55253 57590 56148 55136 58850 57616 55660 59870 60089 59934
56169
54994 55946 58990 56514 59026 57404 54728 59582 57993 57209]
Count : 106

```

## Task - 6

The company decided to increment the salary of sales employees with an annual salary of less than \$ 20,000 by 20%. The company wishes to update the salary record of these employees. Help the company accomplish this task. Further, update these salary records in the main record of the employees' salaries in the Sales department.

```

sale_dup = sale_sal
sale_index = np.where(sale_dup<20000)
print(sale_dup[sale_index])
print(sale_sal)
sale_dup[sale_index] = sale_dup[sale_index] +
(0.20*sale_dup[sale_index])
print(sale_sal[sale_index])

```

20988.75	22440.	22811.875	24481.25	22819.375	20604.375	23805.625
26283.125	27427.5	22212.	26190.	22897.5	26934.375	20198.75
30581.25	27122.5	31042.5	20252.25	23953.75	28665.625	20561.25
26810.625	20264.25	24630.625	21690.625	20803.5	20770.5	30254.375
27173.125	29340.625	31125.	25379.375	21293.75	20753.25	24314.375
22011.875	24838.75	22404.	26683.75	22311.	24819.375	30578.75
23883.75	29811.875	31240.625	26470.	21355.625	21599.375	20401.875
23273.75	22488.75	21145.5	24355.625	21908.125	20814.75	22971.875
22443.125	26131.875	22881.6	24034.375	23493.75	23667.3	22999.375
20286.25	26054.375	20330.25	22128.75	20658.75	27306.25	29362.5
25169.375	29681.25	22706.25	24435.	24038.125	23302.5	23395.
22267.5	27932.5	23568.75	30210.	22999.5	29097.5	20880.
27639.375	20738.125	23588.125	26159.375	23595.	26183.125	24985.625
30160.	22888.8	20356.25	21840.	29961.25	23606.1	22599.375
20572.5	21878.75	22267.5	24100.	29098.125	28343.125	26318.75
28794.375	27071.25	26467.5	22561.5	28300.	24550.625	22141.5
28970.	30668.125	30386.875	22089.	23362.5	22706.25	30448.125
22451.25	27737.5	20552.25	21303.	28263.75	20899.375	23963.4
21226.875	27018.75	30360.625	27300.625	20749.375	25133.75	23623.2
21830.625	22666.875	30123.125	21663.75	22578.	28828.125	29530.625
24093.75	31195.625	20238.75	29845.	21720.	30516.25	21288.125
26864.375	24290.	22897.5	23567.5	24141.25	31029.375	23309.25
28659.375	20952.5	31151.875	22548.75	29980.625	20598.75	23518.8
20678.75	21486.875	29791.25	23876.25	20128.75	23789.7	23135.25
22153.5	26263.125	21185.625	26189.375	21256.5	20956.5	29379.375

27703.75	21185.	22955.	23491.8	29245.	26720.	24250.
22270.625	26022.5	23036.25	23280.	23746.875	21909.75	23703.125
26981.875	31223.75	25555.	20437.5	27071.25	26403.75	22828.75
22405.625	23373.75	24136.25	21766.25	21478.5	29700.625	23188.75
23483.25	23613.75	29926.875	23075.1	23954.4	21146.25	20664.375
23937.5	20271.25	20341.875	22598.125	23641.875	22503.6	20526.
25291.25	27391.25	27174.375	23368.125	22462.5	30595.625	26585.
27370.625	23316.	30306.875	20578.75	21276.	21414.75	22360.5
22871.25	22842.	28021.875	22760.	22869.375	28862.5	21605.
21382.5	29025.	20694.	23886.	26129.375	29040.625	26151.25
26356.875	22146.75	23698.75	25962.5	20309.375	23655.6	27331.875
22882.5	23329.5	22381.875	21496.875	22275.625	21511.25	29416.25
23754.75	26778.125	26453.75	26145.625	30086.25	20345.625	26905.625
26721.25	26503.75	29800.	29393.125	28944.375	21745.625	29817.5
29946.875	26312.5	24680.	30448.125	26408.125	27284.375	24525.
25504.375	23472.	21853.125	20942.25	23418.9	29120.625	30698.125
28123.75	20176.5	30542.5	23882.5	29016.25	26880.	22331.25
30300.625	22498.5	22878.	25774.375	23552.5	30146.25	21556.5
27896.25	27213.125	21608.125	20959.375	25025.625	21390.	30142.5
23066.1	21124.375	26264.375	23520.625	29718.125	22889.375	23956.5
27459.375	27950.	24288.125	20665.625	22880.	21318.125	30885.625
30035.	30713.75	28788.75	22663.8	27668.75	25002.5	29376.875
20110.5	21339.	25457.5	26635.625	22910.	23331.875	25689.375
26267.5	28062.5	21705.	28423.75	26253.125	28961.25	28306.875
26630.	29192.5	29665.	20592.	26413.125	30396.25	27906.875
29293.125	22576.875	21228.125	22368.125	20773.75	27188.125	21438.75
22330.625	20472.75	25955.	22204.375	23250.	21941.25	21351.75
20830.625	21734.25	29457.5	21218.125	22410.	25321.875	26448.125
24265.	23804.25	22453.5	29505.	20048.25	22692.5	23055.625
20781.75	21430.	27993.75	23101.2	25282.5	29671.25	22270.5
20955.	29955.625	23022.	20124.	30090.625	23956.2	21112.5
20381.875	29916.25	24773.125	20460.	22866.75	21106.875	21928.125
27036.25	22905.	25204.375	27850.625	20003.125	29283.125	22857.3
23117.5	28840.	22236.75	26036.25	29518.125	21382.5	29092.5
30976.25	21749.25	23441.25	23607.75	23879.7	21168.	23693.4
21938.25	20655.75	22319.25	22941.75	23298.75	28540.	20841.875
23391.9	21955.625	29747.5	20894.375	26127.5	29002.5	27438.75
26194.375	26360.	28480.	24196.25	23478.75	26558.125	23093.125
22256.875	27935.	30398.125	21059.25	20645.25	22816.5	26791.25
29761.25	28750.	25066.25	23455.5	21417.	22001.25	20745.
30925.	23203.75	23410.8	21975.625	25915.625	23876.25	31038.125
30958.125	23179.375	22200.	22769.1	25555.	29013.125	23337.
28406.25	24028.125	22623.3	28898.125	20569.5	30470.625	20586.75
29191.875	25150.625	30488.75	23535.9	23776.5	21446.25	23085.75
29651.25	28268.75	21181.25	26250.625	30776.25	26703.125	29955.625
23791.875	29550.625	23423.75	20096.25	23960.625	25355.625	20875.5
23062.5	22893.75	25630.625]				

## Task - 7

After some time, the employees with the employee codes from 1996 to 2000 resign from their current roles. As per the policy, the company deletes the data of such employees after five years. Help the company delete the data of those employees. The company hires five new employees and assigns them the employee codes from 2001 to 2005. Help the company add the codes of the newly hired employees to the existing data.

```
new_sale1=sale
sale_new = np.arange(2001,2006)
ss = np.where(new_sale > 1995)
new_sale1[ss] = sale_new
print(new_sale1)
```

```
[1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514
 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528
 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542
 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556
 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570
 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584
 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598
 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612
 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626
 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640
 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654
 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668
 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682
 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696
 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710
 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724
 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738
 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752
 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766
 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780
 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794
 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808
 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822
 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836
 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850
 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864
 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878
 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892
 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906
 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920
 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934
 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948
 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962
 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976]
```



```
1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990
1991 1992 1993 1994 1995 2001 2002 2003 2004 2005]
```

## ADDITIONAL QUESTIONS

### Task - 8

The Financial Analyst, David, wishes to know the percentage by which the total salary of the HR department's employees is more/less than the total salary of the sales department's employees in order to manage the total cost to the employee. Help David to accomplish this task. Also, calculate the difference between the average salary of the HR department's employees and the average salary of the sales department's employees.

```
hr_tot_sal = np.sum(hr_sal)
sale_tot_sal = np.sum(sale_sal)
hr_mean_sal = np.mean(hr_sal)
sale_mean_sal = np.mean(sale_sal)
#print(hr_tot_sal, " ", sale_tot_sal)
percent = (sale_tot_sal/hr_tot_sal)*100
print("HR salary is ", percent, " %", "More than Sales Salary")
print("Avg of HR Salary - Avg of Sales salaries = ", hr_mean_sal, " - ", sale_mean_sal, " = ", hr_mean_sal-sale_mean_sal)
```

```
HR salary is  61.98778836860692  % More than Sales Salary
Avg of HR Salary - Avg of Sales salaries =  39944.622  -  24760.78775
=  15183.834250000004
```

### Task - 9

To provide specific type of benefit plan, the company wishes to know how many employees in the Finance department are getting the salary in between 50,000 USD to 55,000 USD. How can you accomplish this task?

```
import numpy as np
fin_a = np.copy(fin_sal)
ab = np.where(fin_a > 50000)
fin_ab = fin_a[ab]
bc = np.where(fin_ab <= 55000)
fin_bc = fin_ab[bc]
print(fin_bc)
```

```
[50762.5  54786.25 51661.25 51123.75 54585.    52250.    54696.25
52317.5]
```

```

54581.25 53505.    53847.5  50597.5  53711.25 51078.75 53426.25
54197.5
50005.    50750.    54415.    54541.25 53175.    51973.75 54160.
53003.75
51465.    54903.75 54222.5  52586.25 50171.25 54206.25 54306.25 54750.
52908.75 51188.75 52998.75 52947.5  53402.5  53226.25 50898.75
54822.5
51403.75 54886.25 50185.    54257.5  51172.5  53947.5  52892.5  53320.
52595.    54848.75 53528.75 53440.    53110.    52513.75 50236.25
52966.25
50555.    53878.75 52918.75 52261.25 54175.    52523.75 52490.
51002.5
52645.    50490.    52565.    54320.    51160.    52620.    54171.25
53488.75
51081.25 50983.75 52038.75 52665.    53262.5  52927.5  51906.25
52392.5
52645.    50295.    53233.75 54043.75 50192.5 ]

```

## Task - 10

The company has stored the employee codes with their ages in the CSV file. Look at the "Numpy\_challenge.CSV" file which contains the information about the employee codes and their ages. How can you read the data from this file and find the average age of all the employees?

```

import numpy as np
emp_code = np.genfromtxt('Numpy_challenge.csv', delimiter=',',
skip_header=1)
emp_code

array([[ 1., 22.],
       [ 2., 27.],
       [ 3., 31.],
       [ 4., 29.],
       [ 5., 27.],
       [ 6., 26.],
       [ 7., 27.],
       [ 8., 23.],
       [ 9., 27.],
       [10., 32.],
       [11., 28.],
       [12., 27.],
       [13., 22.],
       [14., 27.],
       [15., 35.],
       [16., 33.],
       [17., 28.]])

```

```
[18., 22.],  
[19., 25.],  
[20., 27.],  
[21., 37.],  
[22., 27.],  
[23., 24.],  
[24., 27.],  
[25., 28.],  
[26., 26.],  
[27., 27.],  
[28., 27.],  
[29., 29.],  
[30., 49.],  
[31., 26.],  
[32., 32.],  
[33., 26.],  
[34., 24.],  
[35., 24.],  
[36., 23.],  
[37., 28.],  
[38., 28.],  
[39., 22.],  
[40., 26.],  
[41., 32.],  
[42., 35.],  
[43., 33.],  
[44., 31.],  
[45., 30.],  
[46., 36.],  
[47., 22.],  
[48., 23.],  
[49., 32.],  
[50., 34.]])
```

pwd

```
'C:\\Users\\Kapil\\Documents\\Practice\\c0URSE3'
```

```
import numpy as np  
import csv  
with open('Numpy_challenge.csv', 'r') as f:  
    code = list(csv.reader(f, delimiter=';'))  
code = np.array(code[1:])  
code  
  
array([[ '1',22'],  
       [ '2',27'],  
       [ '3',31'],
```

```
['4,29'],  
['5,27'],  
['6,26'],  
['7,27'],  
['8,23'],  
['9,27'],  
['10,32'],  
['11,28'],  
['12,27'],  
['13,22'],  
['14,27'],  
['15,35'],  
['16,33'],  
['17,28'],  
['18,22'],  
['19,25'],  
['20,27'],  
['21,37'],  
['22,27'],  
['23,24'],  
['24,27'],  
['25,28'],  
['26,26'],  
['27,27'],  
['28,27'],  
['29,29'],  
['30,49'],  
['31,26'],  
['32,32'],  
['33,26'],  
['34,24'],  
['35,24'],  
['36,23'],  
['37,28'],  
['38,28'],  
['39,22'],  
['40,26'],  
['41,32'],  
['42,35'],  
['43,33'],  
['44,31'],  
['45,30'],  
['46,36'],  
['47,22'],  
['48,23'],  
['49,32'],  
['50,34']], dtype='<U5')
```

## Task - 11

In order to promote employees for a particular position, the company wishes to know the total number of employees whose age is more than 25 years. Display all such employees along with their employee codes.

```
d = np.  
emp_code[:,0]
```

## Task - 12

In order to consider employees for a senior executive position, the company needs to know the total number of employees whose age is more than 30 years but less than 35 years. Display all such employees, along with their employee codes.